

09/076956

Crane
09/076956

1/5

FILE 'REGISTRY' ENTERED AT 15:14:22 ON 31 JUL 2001
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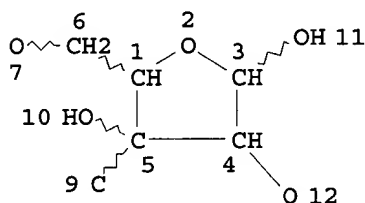
STRUCTURE FILE UPDATES: 30 JUL 2001 HIGHEST RN 349531-86-8
DICTIONARY FILE UPDATES: 30 JUL 2001 HIGHEST RN 349531-86-8

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for details.

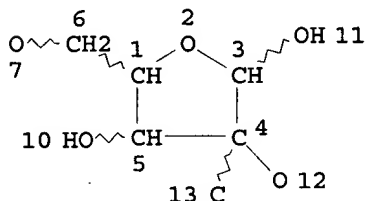
L26 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:
RING(S) ARE ISOLATED OR EMBEDDED
NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE
L28 STR



NODE ATTRIBUTES:
DEFAULT MLEVEL IS ATOM
DEFAULT ECLEVEL IS LIMITED

STrs.
Claim 104

Claim 105

09/076956

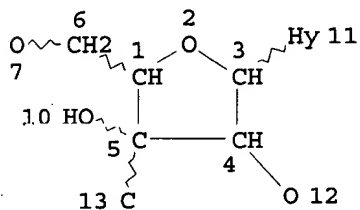
GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L30 STR



Claim 106

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS M2 N AT 11

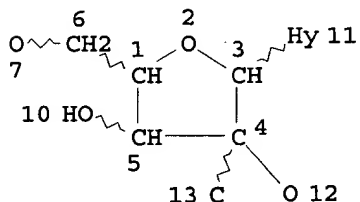
GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L32 STR



Claim 107

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

ECOUNT IS M2 N AT 11

GRAPH ATTRIBUTES:

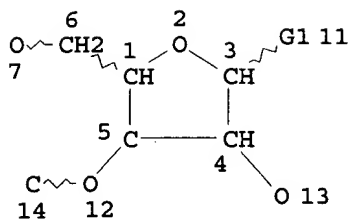
RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L34 STR

09/076956



claims 108 & 109

VAR G1=OH/HY

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

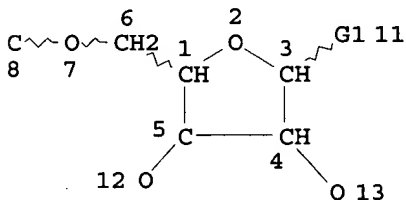
GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L36 STR



claims 108 & 109

VAR G1=OH/HY

NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 11

STEREO ATTRIBUTES: NONE

L38 21250 SEA FILE=REGISTRY SSS FUL L26 OR L28 OR L30 OR L32 OR L34 OR L36

100.0% PROCESSED 55854 ITERATIONS

21250 ANSWERS

SEARCH TIME: 00.00.08

FILE 'CAPLUS' ENTERED AT 15:14:34 ON 31 JUL 2001

L39 6917 SEA ABB=ON PLU=ON L38 OR L38/D

Searcher : Shears 308-4994

L40 117684 SEA ABB=ON PLU=ON (SYNTHES? OR MANUF? OR PREP? OR
 PRODUC?) (5A) (?NUCLEOTIDE? OR NUCLEIC OR DNA OR DEOXYRIBON
 UCLEIC OR DEOXY RIBONUCLEIC)

L41 1547 SEA ABB=ON PLU=ON L39 AND L40

L45 62 S L41 AND SOLID SUPPORT

L47 25 S L45 AND SOLID PHASE

=> sel hit l47 1-25 rn
 E17 THROUGH E248 ASSIGNED

L47 ANSWER 1 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 2000:438387 CAPLUS

DOCUMENT NUMBER: 133:208110

TITLE: Synthesis of 5'-C- and 2'-O-(bromoalkyl)-
 substituted ribonucleoside phosphoramidites for
 the post-synthetic functionalization of
 oligonucleotides on **solid**
support

AUTHOR(S): Wu, Xiaolin; Pitsch, Stefan

CORPORATE SOURCE: Laboratorium fur Organische Chemie, ETH-Zentrum,
 Zurich, CH-8092, Switz.

SOURCE: Helv. Chim. Acta (2000), 83(6), 1127-1144

CODEN: HCACAV; ISSN: 0018-019X

PUBLISHER: Verlag Helvetica Chimica Acta

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 133:208110

AB The prepn. of building blocks for the incorporation of
 6'-O-(5-bromopentyl)-substituted .beta.-D-allofuranosylnucleosides
 and 2'-O-[(3-bromopropoxy)methyl]-substituted ribonucleosides into
 oligonucleotide sequences is presented. These reactive building
 blocks can be modified with a variety of soft nucleophiles while the
 (fully protected) sequence is still attached to the **solid**
support. As an example of this strategy, we carried out
 some preliminary **solid-phase** substitution and
 conjugation reactions with DNA sequences contg. a
 2'-O-[(3-bromopropoxy)methyl]-substituted ribonucleoside and detd.
 the pairing properties of duplexes obtained therefrom.

IT 81246-79-9 121058-82-0 231957-26-9
 231957-27-0

RL: RCT (Reactant)

(synthesis of and bromoalkylsubstituted ribonucleoside
 phosphoramidites for the postsynthetic functionalization of
 oligonucleotides on **solid support**)

IT 289891-43-6P 289891-44-7P 289891-45-8P
 289891-46-9P 289891-47-0P 289891-48-1P
 289891-49-2P 289891-50-5P 289891-51-6P
 289891-52-7P 289891-53-8P 289891-54-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis of and bromoalkylsubstituted ribonucleoside
 phosphoramidites for the postsynthetic functionalization of
 oligonucleotides on **solid support**)

REFERENCE COUNT: 25

REFERENCE(S): (3) Corrie, J; J Chem Soc Perkin Trans 1 1992,
 P1015 CAPLUS
 (4) Ferentz, A; J Am Chem Soc 1991, V113, P4000
 CAPLUS
 (6) Garner, P; J Org Chem 1988, V53, P1294
 CAPLUS
 (7) Hakimelahi, G; Can J Chem 1982, V60, P1106
 CAPLUS
 (8) Harris, C; J Am Chem Soc 1991, V113, P4328
 CAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 2 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1999:395019 CAPLUS

DOCUMENT NUMBER: 131:116449

TITLE: Automated RNA-synthesis with photocleavable
 sugar and nucleobase protecting groups

AUTHOR(S): Stutz, Alfred; Pitsch, Stefan

CORPORATE SOURCE: Organisch-Chemisches Laboratorium,
 Eidgenossische Technische Hochschule Zurich,
 Zurich, CH-8092, Switz.

SOURCE: Synlett (1999), (Spec.), 930-934
 CODEN: SYNLES; ISSN: 0936-5214

PUBLISHER: Georg Thieme Verlag

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 131:116449

AB A synthetic method for the N-alkyloxycarbonylation of adenine and
 guanine nucleosides was developed and used for the prepn. of
 RNA-phosphoramidites carrying photolabile sugar and nucleobase
 protecting groups. From these building blocks, a heptameric
oligoribonucleotide was **prepd.** by automated
synthesis, followed by detachment from the **solid**
support and photolytic deprotection under mild conditions.
 The presented strategy allows a simple prepn. of 3'-O-aminoacylated
 RNA-sequences.

IT 81246-79-9 121058-82-0 231957-26-9
 231957-27-0

RL: RCT (Reactant)

09/076956

(automated RNA-synthesis with photocleavable sugar and nucleobase protecting groups)

IT 149622-83-3P 149622-84-4P 231957-28-1P
231957-29-2P 231957-30-5P 231957-31-6P
231957-32-7P 231957-33-8P 231957-34-9P
231957-35-0P 231957-36-1P 231957-37-2P
231957-38-3P 231957-39-4P 231957-40-7P
231957-42-9DP, controlled pore glass bound

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(automated RNA-synthesis with photocleavable sugar and nucleobase protecting groups)

IT 231957-41-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(automated RNA-synthesis with photocleavable sugar and nucleobase protecting groups)

REFERENCE COUNT: 14

REFERENCE(S): (1) Baldini, G; Biochemistry 1988, V27, P7951
CAPLUS
(2) Gasparutto, D; Nucl Acids Res 1992, V20,
P5159 CAPLUS
(3) Hagen, M; J Org Chem 1988, V53, P5040 CAPLUS
(4) Hagen, M; J Org Chem 1989, V54, P3189 CAPLUS
(5) Hayakawa, Y; J Am Chem Soc 1990, V112, P1691
CAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 3 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1999:104552 CAPLUS

DOCUMENT NUMBER: 130:139588

TITLE: Universal solid supports and
methods for the preparation of
oligodeoxyribonucleotides

INVENTOR(S): Reddy, M. Parameswara; Michael, Maged A.;
Farooqui, Firdous

PATENT ASSIGNEE(S): Beckman Instruments, Inc., USA

SOURCE: U.S., 19 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5869696	A	19990209	US 1996-636113	19960422
EP 843684	A2	19980527	EP 1997-922372	19970421
R: DE, FR, GB, IT				
JP 2000500158	T2	20000111	JP 1997-538250	19970421

Searcher : Shears 308-4994

09/076956

PRIORITY APPLN. INFO.:

US 1996-636113

19960422

WO 1997-US6648

19970421

AB Universal solid support

oligodeoxyribonucleotide synthesis reagents, oligodeoxyribonucleotide synthesis processes, and reagents for cleaving oligodeoxyribonucleotides from solid supports are disclosed. 23-Oligonucleotide cleaving reagents include methylamine and/or ammonium hydroxide and trimethylamine.

IT 219833-72-4P 219833-73-5P 219833-79-1P

219833-80-4P 219833-81-5P 219833-82-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(universal solid supports and methods for the
prepn. of oligodeoxyribonucleotides)

IT 219833-84-8P 219833-86-0P

RL: SPN (Synthetic preparation); PREP (Preparation)
(universal solid supports and methods for the
prepn. of oligodeoxyribonucleotides)

REFERENCE COUNT: 11

REFERENCE(S):

- (1) Beaucage, S; Tetrahedron 1992, V48(12), P2223 CAPLUS
 - (2) Cook; US 3271455 1966 CAPLUS
 - (3) Crea, R; Nucleic Acids Research 1980, V8(10) CAPLUS
 - (4) de Bear, J; A Universal Glass Support For Oligonucleotide Synthesis 1987, V6(5), P821 CAPLUS
 - (5) Duranleau; US 5189221 1993 CAPLUS
- ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 4 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1998:680290 CAPLUS

DOCUMENT NUMBER: 130:38628

TITLE: A novel solid support for
synthesis of 2',3'-cyclic phosphate terminated
oligonucleotides

AUTHOR(S): Vyle, Joseph S.; Williams, Nicholas H.; Grasby,
Jane A.

CORPORATE SOURCE: Department of Chemistry, Krebs Institute,
University of Sheffield, Sheffield, S3 7HF, UK

SOURCE: Tetrahedron Lett. (1998), 39(43), 7975-7978
CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Michaelis-Arbusov chem. was used to prep. O,S-dialkyl
3'-O-nucleosidyl phosphoro-thiolate triesters in soln. and attached
to CPG. The support-bound nucleoside was utilized in the

Searcher : Shears 308-4994

synthesis of a penta-ribonucleotide that was fully deprotected on the support. Subsequent treatment with a buffered soln. of iodine cleaved the RNA from the CPG with concomitant formation of a terminal 2',3'-cyclic phosphate.

IT 216692-02-3

RL: RCT (Reactant)

(novel **solid support** for synthesis of 2',3'-cyclic phosphate terminated oligonucleotides)

IT 160107-20-0P 216692-07-8P 216692-11-4DP,
CPG-bound

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(novel **solid support** for synthesis of 2',3'-cyclic phosphate terminated oligonucleotides)

REFERENCE COUNT: 21

REFERENCE(S): (1) Bischoff, R; Anal Biochem 1987, V164, P336
CAPLUS
(2) Brown, D; J Chem Soc 1952, P2708 CAPLUS
(3) Butzow, J; Biochemistry 1971, V10, P2019
CAPLUS
(4) Esteban, J; J Biol Chem 1997, V272, P13629
CAPLUS
(5) George, A; Inorg Chem 1985, V24, P3627
CAPLUS

ALL CITATIONS AVAILABLE IN THE RE FORMAT

L47 ANSWER 5 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1998:536516 CAPLUS

DOCUMENT NUMBER: 129:276182

TITLE: Tetraethylene glycol-derived spacer for
oligonucleotide synthesis

AUTHOR(S): Gunzenhauser, Sigmund; Biala, Ewa; Strazewski,
Peter

CORPORATE SOURCE: Inst. Org. Chem., Univ. Basel, Basel, CH-4056,
Switz.

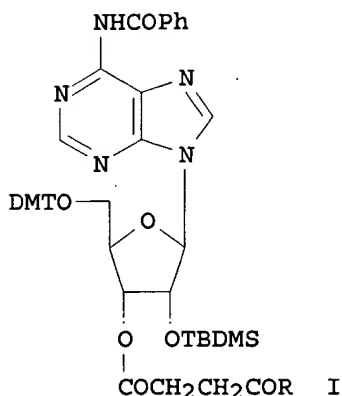
SOURCE: Tetrahedron Lett. (1998), 39(35), 6277-6280
CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



- AB 3,6,9-Trioxaundecane-1,11-diisocyanate,
OCNCH₂CH₂OCH₂CH₂OCH₂CH₂OCH₂CH₂NCO (I) was synthesized from
tetraethylene glycol in 5 steps and 48% overall yield. Spacer I was
monofunctionalized with the fully protected adenosyl-3'-O-succinate
deriv. (II; R = OH; DMT = 4,4'-dimethoxytrityl, TBDMS =
tert-butyldimethylsilyl) to obtain II [R =
NHCH₂CH₂O(CH₂CH₂O)₂CH₂CH₂NCO] and linked to aminomethyl polystyrene
(50% crosslinked with divinylbenzene) affording a **solid**
support II [R = NHCH₂CH₂O(CH₂CH₂O)₂CH₂CH₂NHCONHCH₂-poly
styrene resin] suitable for **oligoribonucleotide**
synthesis (loading: .apprx.20 .mu.mol/g). The HPLC anal. of
a crude **oligoribonucleotide synthesis** and the
isolated yield of purified oligomer show that this spacer compares
well to hexamethylene diamine.
- IT 118362-03-1 121058-86-4 131316-88-6
149559-87-5
RL: RCT (Reactant)
(prepn. of tetraethylene glycol-derived spacer for **solid**
phase synthesis of oligonucleotide)
- IT 213926-26-2P 213926-27-3P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. of tetraethylene glycol-derived spacer for **solid**
phase synthesis of oligonucleotide)
- IT 213926-26-2DP, reaction product with aminomethylated
polystyrene resin 213926-27-3DP, reaction product with
aminomethylated polystyrene resin
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(**solid support**; prepn. of tetraethylene
glycol-derived spacer for **solid phase**
synthesis of oligonucleotide)

L47 ANSWER 6 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1998:417528 CAPLUS
 DOCUMENT NUMBER: 129:189598
 TITLE: **Synthesis of phenazine-tethered and xylofuranosyl oligonucleotide conjugates: the thermal stability and fluorescence properties of their duplexes (DNA-DNA & DNA-RNA) & triplexes**
 AUTHOR(S): Zamaratski, E.; Chattopadhyaya, J.
 CORPORATE SOURCE: Dep. Bioorg. Chem., Biomedical Cent., Univ. Uppsala., U, Swed.
 SOURCE: Tetrahedron (1998), 54(28), 8183-8206
 CODEN: TETRAB; ISSN: 0040-4020
 PUBLISHER: Elsevier Science Ltd.
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The synthesis of phenazine (Pzn) tethered ara-U and xylo-incorporated oligonucleotides, and their properties as DNA-DNA, DNA-RNA duplexes and as triplexes are reported. 2'-O-Pzn-tethered ara-U amidite and Pzn-linked amidite block as well as CPG **solid supports** functionalized with 2'-O-Pzn-tethered ara-U and 3'-O-Pzn-tethered xylo-U succinates were used in the **solid-phase DNA synthesis** to prep. modified 9mers (for DNA-DNA & DNA-RNA duplex studies) and 18mers (for the DNA triplex studies). Thermal melting expts. with the resulting duplexes and triplexes showed that all oligo-DNAs, except for the middle-modified ones, have enhanced affinity to the DNA and RNA targets as well as for the DNA duplex target. Pzn-tethered ara-U block was more efficient at the 3'-terminal of oligonucleotides than at the 5'-end in the duplexes and esp. in triplexes, where it provided a dramatic improvement in the stability ($\Delta T_m = 16.1^\circ\text{C}$). Employment of Pzn-tethered ara-U block at the 3'-end together with the Pzn-tethered dT block at the 5'-end of the oligo-DNAs provided the best duplex and triplex stabilization to give a highest ΔT_m of 14.4°C for DNA-DNA duplexes, ΔT_m of 11.7°C for DNA-RNA duplexes and ΔT_m of 19.6°C for triplexes. All DNA-DNA and DNA-RNA duplexes as well as DNA triplexes, formed by the oligos modified with 2'-O-Pzn-tethered ara-U blocks showed greater stability than those formed by the oligos modified with xylo-analogs with the same length of the linker arms. For both ara- and xylo-configurations, the best DNA-DNA & DNA-RNA duplex stabilization was provided by the short Et linkers, and increasing the length of the linker led to considerable destabilization of the duplexes. In case of triplexes, longer linker arms were required to obtain better stabilization. Hexyl linker provided the highest triplex stabilization for the oligonucleotides modified with Pzn-tethered ara-U block ($\Delta T_m =$

16.5.degree.C) and Bu linker was found to be most suitable for the oligo-DNAs modified with Pzn-tethered xylo-U block (.DELTA.Tm = 12.3.degree.C). Fluorescence studies showed that Pzn behaves as a weak exterior binder upon DNA-DNA or DNA-RNA duplex or DNA triplex formation which accounts for moderate changes in the fluorescent properties of the Pzn moiety (.DELTA.F for DNA-DNA and DNA-RNA duplexes = .+-0.2, .DELTA.F for triplexes = 1.4-2.5). Employment of Pzn at both 3' and 5' ends of the oligonucleotides provided the greatest duplex and triplex stabilization so far, and led to more effective interaction between the Pzn moieties and the double and triple helixes (.DELTA.F for DNA-DNA and DNA-RNA duplexes = 4, .DELTA.F for triplexes = 5).

IT 211441-80-4P 211441-81-5P 211441-83-7P
 211441-84-8P 211441-85-9P 211441-87-1P
 211441-88-2P 211441-91-7P 211441-95-1P
 211441-96-2P 211441-98-4P 211441-99-5P
 211442-00-1P 211442-06-7P 211442-08-9P
 211442-10-3P 211442-11-4P 211442-13-6P
 211442-15-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (synthesis of phenazine-tethered and xylofuranosyl
 oligonucleotide conjugates and thermal stability and
 fluorescence properties of their duplexes and triplexes)

L47 ANSWER 7 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1998:160358 CAPLUS

DOCUMENT NUMBER: 128:230626

TITLE: Divergent **solid-phase**
 synthesis of nucleic acid
 dendrimers

AUTHOR(S): Hudson, Robert H. E.; Robidoux, Sebastien;
 Damha, Masad J.

CORPORATE SOURCE: Department of Chemistry, Erindale College, U. of
 Toronto, Mississauga, ON, L5L 1C6, Can.

SOURCE: Tetrahedron Lett. (1998), 39(11), 1299-1302
 CODEN: TELEAY; ISSN: 0040-4039

PUBLISHER: Elsevier Science Ltd.

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A divergent or "starburst" approach for the construction of branched nucleic acids mimicking naturally occurring lariat and forked introns is described. Chain assembly takes place on the surface of controlled-pore glass **solid support** in the unconventional 5' to 3' direction. The branch junctures were introduced by use of N8-benzoyl-2',3'-O-bis(dimethoxytrityl)adenosine-5'-O-(N,N-diisopropyl)-.beta.-cyanoethylphosphoramidite. Various dendrimers were prepd. in comparable or better yields relative to the convergent approach.

IT 204505-63-5

RL: RCT (Reactant)

(divergent **solid-phase synthesis** of
nucleic acid dendrimers)

L47 ANSWER 8 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1998:79979 CAPLUS

DOCUMENT NUMBER: 128:128236

TITLE: **Nucleotides. Part 55.**
Synthesis and application of a novel
linker for **solid-phase**
synthesis of modified
oligonucleotides

AUTHOR(S): Waldvogel, Siegfried R.; Pfleiderer, Wolfgang

CORPORATE SOURCE: Fakultät Chemie, Universität Konstanz,
Konstanz, D-78434, Germany

SOURCE: Helv. Chim. Acta (1998), 81(1), 46-58

CODEN: HCACAV; ISSN: 0018-019X

PUBLISHER: Verlag Helvetica Chimica Acta AG

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Various bifunctional amino-protecting groups such as the phthaloyl, succinyl, and glutaryl group were investigated as potential linker mols. for attachment to **solid-support** materials. Pentane-1,3,5-tricarboxylic acid 1,3-anhydride offered the best properties and reacted with the amino groups of differently sugar-protected adenosine, cytidine, and guanosine derivs. to the corresponding 2-(2-carboxyethyl)glutaryl derivs. The utility of the new linker-type mols. is demonstrated by the **solid-support** synthesis of the potentially antivirally active 3'-deoxyadenylyl-(2'-5')-2'-adenylic acid 2'-{2-[(adenin-9-yl)methoxy]ethyl} ester starting from the 2'-end with N6,N6-[2-(2-carboxyethyl)glutaryl]-9-[2-(4,4'-dimethoxytrityloxy)ethoxy]methyl}adenine.

IT 156046-12-7 156046-21-8

RL: RCT (Reactant)

(prepn. and application of linker for **solid-phase oligonucleotide synthesis**)

IT 201855-39-2P 201855-40-5P 201855-42-7P

201855-43-8P 201855-45-0P 201855-46-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and application of linker for **solid-phase oligonucleotide synthesis**)

IT 201855-44-9P 201855-47-2P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. and application of linker for **solid-phase oligonucleotide synthesis**)

L47 ANSWER 9 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1997:592440 CAPLUS
 DOCUMENT NUMBER: 127:262966
 TITLE: The (2-cyano-1-phenyl)ethoxycarbonyl (cpeoc) group - a new protecting group for **oligoribonucleotide synthesis**
 AUTHOR(S): Munch, Ursula; Pfleiderer, Wolfgang
 CORPORATE SOURCE: Fakultat Chemie, Univ. Konstanz, Konstanz, D-78434, Germany
 SOURCE: Nucleosides Nucleotides (1997), 16(5 & 6), 801-808
 CODEN: NUNUD5; ISSN: 0732-8311
 PUBLISHER: Dekker
 DOCUMENT TYPE: Journal
 LANGUAGE: English

AB The (2-cyano-1-phenyl)ethoxycarbonyl (cpeoc) group was developed as a new base-labile protecting group for the 5'-OH function in **solid-phase synthesis** of **oligoribonucleotide** by the phosphoramidite approach using the 4-methoxytetrahydropyran-4-yl (mthp) group for 2'-protection. The syntheses of the monomeric building blocks and the first **oligoribonucleotides** obtained by this approach are described.

IT 195881-21-1P 195881-23-3P 195881-25-5P
 195881-27-7P

RL: BYP (Byproduct); PREP (Preparation)
 (solid-phase synthesis of **oligoribonucleotides** using cyanophenylethoxycarbonyl as protecting group)

IT 195881-20-0P 195881-22-2P 195881-24-4P
 195881-26-6P 195881-28-8P 195881-29-9P
 195881-30-2DP, (long-chain-alkyl)methylamine controlled-pore glass solid support 195881-30-2P
 195881-31-3DP, (long-chain-alkyl)methylamine controlled-pore glass solid support 195881-31-3P
 195881-32-4DP, (long-chain-alkyl)methylamine controlled-pore glass solid support 195881-32-4P
 195881-33-5DP, (long-chain-alkyl)methylamine controlled-pore glass solid support 195881-33-5P
 195881-45-9P 195881-48-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (solid-phase synthesis of **oligoribonucleotides** using cyanophenylethoxycarbonyl as protecting group)

L47 ANSWER 10 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1996:622309 CAPLUS
 DOCUMENT NUMBER: 126:8480
 TITLE: Solid support

preparation of all-Rp-oligo(ribonucleotide phosphorothioate)s

AUTHOR(S): Almer, Helena; Stawinski, Jacek; Stroemberg, Roger

CORPORATE SOURCE: Dep. Org. Chem., Stockholm Univ., Stockholm, S-10691, Swed.

SOURCE: Nucleic Acids Res. (1996), 24(19), 3811-3820
CODEN: NARHAD; ISSN: 0305-1048

PUBLISHER: Oxford University Press

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The first method for **solid support** prepn. of all-Rp-oligo(ribonucleoside phosphorothioate)s is presented as well as attempts to increase the stereoselectivity of the key step in this approach. The synthetic strategy consists of (i) a **solid support** prepn. procedure, using 5'-O-(4-methoxytriphenylmethyl)-2'-O-tert-butyldimethylsilyl-ribonucleoside 3'-H-phosphonates, that due to stereoselectivity in the condensation step, gives oligomers with mostly Sp-H-phosphonate diesters (72-89%) under std. conditions, (ii) stereospecific sulfurization S8 in pyridine to produce oligo(ribonucleoside phosphorothioate)s enriched with internucleosidic linkages of Rp configuration, (iii) treatment of the deprotected oligodeoxyribonucleotides with the enzyme Nuclease P1 from *Penicillium citrinum*, that specifically catalyzes cleavage of Dp-phosphorothioate diester linkages, which leaves a mixt. of oligomers having all internucleosidic linkages as Rp-phosphorothioates, and finally (i.v.) isolation and HPLC purifn. of the full length all-Rp oligomer. Mixed sequences contg. the four common nucleosidic residues up to the chain length of a heptamer were synthesized. Change of N-4-protection on the cytidine building block from propionyl to N-methylpyrrolidin-2-ylidené gave slightly improved diastereoselectivity in H-phosphonate diester formation. Increased selectivity up to 99+% was obtained with the guanosine building block when the amt. of pyridine in the coupling step was reduced.

IT 183593-22-8P

RL: BYP (Byproduct); PREP (Preparation)
(stereoselective Merrifield **prepn.** of all-(R)-oligo(ribonucleotide phosphorothioate)s)

IT 50408-20-3 51600-12-5 135780-94-8
183593-02-4 183593-04-6 183593-08-0
RL: RCT (Reactant)

(stereoselective Merrifield **prepn.** of all-(R)-oligo(ribonucleotide phosphorothioate)s)

IT 183592-98-5P 183593-00-2P 183593-06-8P
183593-10-4P 183593-21-7P 183593-23-9P
183593-24-0P 183593-25-1P

09/076956

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(stereoselective Merrifield **prepn.** of all-(R)-oligo(
ribonucleotide phosphorothioate)s)

IT 135760-21-3P 135819-26-0P 183593-14-8P
183593-15-9P 183593-16-0P 183593-17-1P
183593-18-2P 183593-19-3P 183593-20-6P
183813-64-1P 183813-65-2P 183813-66-3P
183813-67-4P 183813-68-5P 183813-69-6P
183813-70-9P

RL: SPN (Synthetic preparation); PREP (Preparation)
(stereoselective Merrifield **prepn.** of all-(R)-oligo(
ribonucleotide phosphorothioate)s)

L47 ANSWER 11 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1995:812740 CAPLUS

DOCUMENT NUMBER: 123:257264

TITLE: Preparation of
oligonucleotides with selectively
cleavable and/or abasic sites.

INVENTOR(S): Urdea, Michael S.; Horn, Thomas

PATENT ASSIGNEE(S): Chiron Corp., USA

SOURCE: U.S., 17 pp. Cont.-in-part of U.S. Ser. No.
559,961.

CODEN: USXXAM

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 6

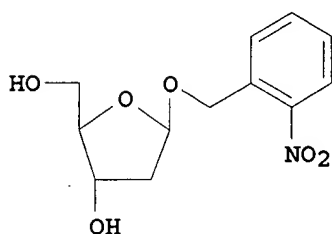
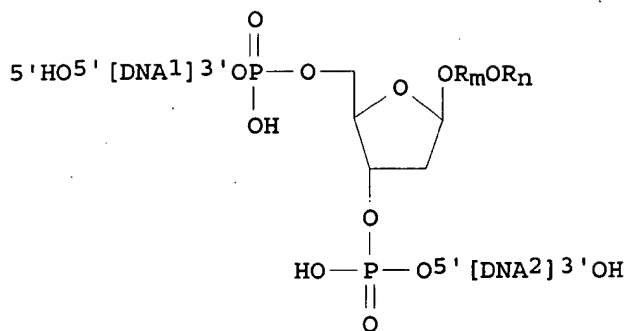
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5367066	A	19941122	US 1991-736445	19910724
US 4775619	A	19881004	US 1984-661508	19841016
US 5118605	A	19920602	US 1988-251152	19880929
US 5258506	A	19931102	US 1989-398711	19890825
US 5430136	A	19950704	US 1990-559961	19900727
CA 2088257	AA	19920128	CA 1991-2088257	19910725
WO 9202528	A1	19920220	WO 1991-US5287	19910725
JP 05508928	T2	19931209	JP 1991-514119	19910725
JP 2552048	B2	19961106		
PL 170146	B1	19961031	PL 1991-298545	19910725
PRIORITY APPLN. INFO.:			US 1984-661508	19841016
			US 1988-251152	19880929
			US 1989-398711	19890825
			US 1990-559961	19900727
			US 1991-736445	19910724
			WO 1991-US5287	19910725

OTHER SOURCE(S): MARPAT 123:257264

Searcher : Shears 308-4994

GI



AB Title compds. [I; DNA1 = a first segment of DNA; DNA2 = a second segment of DNA; Rm = C1-16 alkylene, (CH₂CH₂O)_z; z = 1-16; and Rn = MeCOCH₂CH₂CO, FMOC, 4-O₂NC₆H₄CH₂CH₂O₂C, PhSCH₂CH₂O₂C, PhSO₂CH₂CH₂O₂C, MeOCH₂CH₂OCH₂], and related compds., useful, e.g., in biochem. assays and phosphorylation reactions, were prepd. Such polynucleotides are useful in **solid phase** hybridizations because they permit the release of a label from the **solid support** after the hybridization reaction.

Thus, deoxyribose was refluxed with 2-nitrobenzyl alc. and dichloroacetic acid in MeCN to give 52% deriv. (II). This was protected with DMT-Cl, converted to a phosphoramidite, and coupled under std. conditions to give 3'-T20-[1'-O-(2-nitrobenzyl)-2'-deoxyribose]-T10. The latter was irradiated at 350 nm and then heated in aq. NH₃ at 60.degree. to give T10 and T20 oligomers.

IT 141719-89-3P

RL: BUU (Biological use, unclassified); RCT (Reactant); SPN (Synthetic preparation); BIOL (Biological study); PREP (Preparation); USES (Uses)

(prepn. of oligonucleotides with selectably cleavable and/or abasic sites)

IT 78462-56-3P 81246-79-9P 141719-90-6P

141719-91-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of oligonucleotides with selectably
 cleavable and/or abasic sites)

L47 ANSWER 12 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1993:603741 CAPLUS

DOCUMENT NUMBER: 119:203741

TITLE: Use of the 1-(2-fluorophenyl)-4-methoxypiperidin-
 4-yl (Fpmp) protecting group in the
solid-phase synthesis
 of oligo- and poly-ribonucleotides

AUTHOR(S): Rao, M. Vaman; Reese, Colin B.; Schehlmann,
 Volker; Yu, Pak Sang

CORPORATE SOURCE: Dep. Chem., King's Coll. London, Strand/London,
 WC2R 2LS, UK

SOURCE: J. Chem. Soc., Perkin Trans. 1 (1993), (1),
 43-55

CODEN: JCPRB4; ISSN: 0300-922X

DOCUMENT TYPE: Journal

LANGUAGE: English

AB An approach of the **solid-phase** synthesis of
 oligo- and RNA is described. The synthetic strategy involves the
 use of building blocks in which two acid-labile groups,
 1-(2-fluorophenyl)-4-methoxypiperidin-4-yl (Fpmp) and
 9-phenylxanthen-9-yl (Px), resp., are used to protect the 2'- and
 5'-hydroxy functions of ribonucleoside building blocks. The
 adenine, cytosine and guanine base residues are protected with
 pivaloyl, benzoyl and phenylacetyl groups, resp. 2-Cyanoethyl
 N,N-diisopropylphosphoramidites are used in the coupling steps, and
 5-(3-nitrophenyl)-1H-tetrazole is used as the activating agent.
 Following the chain-assembly process, 2'-protected oligo- and
 poly-ribonucleotides are released from the functionalized
 controlled-pore glass **solid support**; the latter
 stabilized RNA (RNA) sequences are purified before they are fully
 unblocked by treatment with 0.01 mol dm⁻³ HCl (pH 2) at room temp.
 for 20 h.

IT 147490-83-3DP, polymer supported 147490-83-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and reaction of, in synthesis of RNA)

L47 ANSWER 13 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1993:517709 CAPLUS

DOCUMENT NUMBER: 119:117709

TITLE: An acid-labile linker for **solid-**
phase oligoribonucleotide
synthesis using Fmoc group for
 5'-hydroxyl protection

AUTHOR(S): Palom, Yolanda; Alazzouzi, ElMostafa; Gordillo, Fernando; Grandas, Anna; Pedroso, Enrique
 CORPORATE SOURCE: Dep. Quim. Org., Univ. Barcelona, Barcelona, 08028, Spain
 SOURCE: Tetrahedron Lett. (1993), 34(13), 2195-8
 CODEN: TELEAY; ISSN: 0040-4039
 DOCUMENT TYPE: Journal
 LANGUAGE: English
 GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB An alkoxybenzylidene acetal linker formed with the 2'- and 3'-OH of the 3'-terminal ribonucleotide and attached to the **solid support** through an amide bond fulfills the necessary requirements of base stability and acid lability to be used in **solid phase oligoribonucleotide synthesis** in combination with Fmoc [(9-fluorenylmethoxy)carbonyl] and Mthp (4-methoxytetrahydropyran-4-yl) groups for 5'-OH and 2'-OH protection resp. Thus, uridine deriv. I was prepd. and bound to aminoalkylated controlled-pore glass. Me protected phosphates do not give rise to N-methylation of pyrimidine bases (T or U) when piperidine, instead of DBU, is used to remove the Fmoc groups as in nucleotide II (B = T, U).

IT 149018-86-0

RL: RCT (Reactant)
 (acetalation by, of (formylphenoxy)acetic acid)

IT 123755-41-9 123755-42-0

RL: RCT (Reactant)
 (phosphitylation of, by chloro(diisopropylamino)methoxyphosphine)

IT 149018-85-9P 149018-88-2P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and automated synthesis with)

L47 ANSWER 14 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1992:84093 CAPLUS

DOCUMENT NUMBER: 116:84093

TITLE: **Solid phase synthesis of**

oligoribonucleotides by the phosphoramidite approach using 2'-O-1-(2-chloroethoxy)ethyl protection

AUTHOR(S): Sakatsume, Osamu; Yamaguchi, Tohru; Ishikawa, Masahide; Hirao, Ichiro; Miura, Kinichiro; Takaku, Hiroshi

CORPORATE SOURCE: Dep. Ind. Chem., Chiba Inst. Technol., Chiba,
275, Japan

SOURCE: Tetrahedron (1991), 47(41), 8717-28

CODEN: TETRAB; ISSN: 0040-4020

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The new protecting group, 1-(2-chloroethoxy)ethyl (Cee), has been employed for the protection of the 2'-OH groups of ribonucleoside residues in the **synthesis of oligoribonucleotides** by the phosphoramidite approach on a **solid support**, using the acid-labile 5'-O-dimethoxytrityl (DMTr) group. The Cee group is completely stable under the acidic conditions required to remove the 5'-terminal protecting groups in **oligonucleotide synthesis** on a **solid support**, and yet is easily removable under mild condition of acidic hydrolysis (pH 2.0) for the final unblocking step. The Cee-protected ribonucleoside 3'-phosphoramidite units were evaluated in the synthesis of homopolymers of cytidine, the box 9R and 9R' sequences of Tetrahymena rRNA, and a leader sequence of phage Q.beta.-A protein mRNA. Procedures for the deprotection and purifn. of the synthetic oligoribonucleotides are also described.

IT 138494-33-4DP, controlled-pore glass-bound

138494-34-5DP, controlled-pore glass-bound

138494-35-6DP, controlled-pore glass-bound

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. and oligonucleotide synthesis
with)

IT 138494-33-4P 138494-34-5P 138494-35-6P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and reaction of, with alkylaminated controlled-pore
glass)

IT 81246-83-5P 138078-31-6P 138603-19-7P

138603-20-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and reaction of, with phosphoramidochloridite)

IT 138494-31-2P 138494-32-3P 138603-21-1P

138603-22-2P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)

L47 ANSWER 15 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1991:583767 CAPLUS

DOCUMENT NUMBER: 115:183767

TITLE: **Solid-phase
synthesis of
oligoribonucleotides using
5'-9-fluorenylmethoxycarbonyl and
2'-1-(isopropoxyl)ethyl protection**

AUTHOR(S): Ogawa, Takashi; Hosaka, Hideo; Makita, Tatsusi;
Takaku, Hiroshi
CORPORATE SOURCE: Dep. Ind. Chem., Chiba Inst. Technol., Chiba,
275, Japan
SOURCE: Chem. Lett. (1991), (7), 1169-72
CODEN: CMLTAG; ISSN: 0366-7022
DOCUMENT TYPE: Journal
LANGUAGE: English

AB The 1-(isopropoxy)ethyl group has been employed for the protection
of the 2'-hydroxy groups of ribonucleoside residues in the
synthesis of oligoribonucleotides by the
phosphoramidite approach on a **solid support**,
using a base-labile 5'-9-fluorenylmethoxycarbonyl group.

IT 136289-03-7P 136289-04-8P 136289-05-9P
136289-06-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and phosphorylation of)

IT 136289-07-1P 136289-08-2P 136289-09-3P
136289-10-6DP, solid supported 136292-88-1P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, in **synthesis of**
oligoribonucleotides)

L47 ANSWER 16 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1991:122940 CAPLUS

DOCUMENT NUMBER: 114:122940

TITLE: Modified **oligonucleotides. IV.**
Solid-phase synthesis

and preliminary evaluation of phosphorothioate
RNA as potential antisense agents

AUTHOR(S): Morvan, Francois; Rayner, Bernard; Imbach, Jean
Louis

CORPORATE SOURCE: Lab. Chim. Bio-Org., Univ. Montpellier II,
Montpellier, 34095, Fr.

SOURCE: Tetrahedron Lett. (1990), 31(49), 7149-52
CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

LANGUAGE: English

AB For the first time a phosphorothioate **oligoribonucleotide**,
namely PS-C14, has been **synthesized on solid**
support by making use of 3H-1,2-benzodithiol-3-one
1,1-dioxide as the sulfurizing agent. This modified oligomer is
more resistant to enzymic degradn. than rC14 and binds to
complementary RNA strands.

IT 81256-87-3D, controlled pore glass-supported
118684-40-5

RL: RCT (Reactant)
(nucleotide coupling of, in presence of benzodithiolone dioxide)

as sulfurizing agent)

L47 ANSWER 17 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1990:631900 CAPLUS

DOCUMENT NUMBER: 113:231900

TITLE: A new combined purification/phosphorylation procedure for oligodeoxynucleotides

AUTHOR(S): Bannwarth, Willi; Wippler, Juergen

CORPORATE SOURCE: Pharma Div., F. Hoffmann-La Roche A.-G., Basel, CH-4002, Switz.

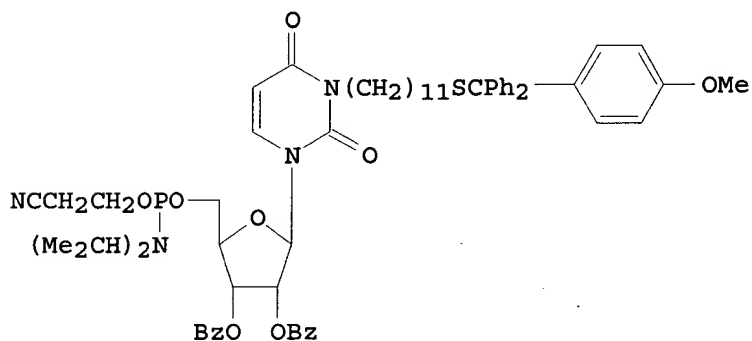
SOURCE: Helv. Chim. Acta (1990), 73(4), 1139-47

CODEN: HCACAV; ISSN: 0018-019X

DOCUMENT TYPE: Journal

LANGUAGE: English

GI



I

AB Phosphoramidite I was prepd. which allows the introduction of a purifn. handle into synthetic **oligodeoxynucleotides** during their **synthesis** on a **solid support** and its usefulness proved in a simple purifn. procedure for oligodeoxynucleotides. With this anchor mol., it is possible to attach the desired DNA fragment, after deprotection, to a **solid support** by a covalent bond. All failure sequences can be removed by washing steps due to their lack of the anchor mol. The removal of the pure DNA fragment by an oxidn./elimination process directly yields the 5'-phosphorylated DNA fragment. The method is amenable to current methods of **solid-phase DNA synthesis** and, in principle, does not depend on chain length or base compn. of the oligonucleotides.

IT 130518-73-9P

09/076956

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and conversion of, to phosphoramidite)

IT 130518-74-0P 130530-61-9P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and oligonucleotide synthesis
with)

IT 130518-76-2P 130518-98-8P
RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of)

IT 78462-56-3
RL: RCT (Reactant)
(reaction of, with methoxytritylthioundecyl tosylate)

IT 130518-75-1
RL: RCT (Reactant)
(reaction of, with uridine deriv.)

L47 ANSWER 18 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1990:572652 CAPLUS

DOCUMENT NUMBER: 113:172652

TITLE: Solid-phase phosphoramidite
synthesis of .alpha.-
oligoribonucleotides

INVENTOR(S): Rayner, Bernard; Imbach, Jean Louis

PATENT ASSIGNEE(S): Centre National de la Recherche Scientifique,
Fr.

SOURCE: Eur. Pat. Appl., 30 pp.
CODEN: EPXXDW

DOCUMENT TYPE: Patent

LANGUAGE: French

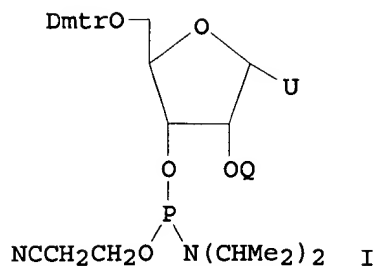
FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 360626	A1	19900328	EP 1989-401681	19890615
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
FR 2636633	A1	19900323	FR 1988-12264	19880920
WO 9003381	A1	19900405	WO 1989-FR303	19890615
W: JP, US				
JP 03504015	T2	19910905	JP 1989-507012	19890615
PRIORITY APPLN. INFO.:			FR 1988-12264	19880920
			WO 1989-FR303	19890615

GI

Searcher : Shears 308-4994



AB The title synthesis is carried out by condensation of .alpha.-nucleosides substituted in the 3' position with phosphoramidite groups P[N(R1)2]2OR2, [R1 = (substituted) alkyl and R2 = Me, CH2CH2CN] and with the 2'-OH group protected by 1-(2-chloro-4-methylphenyl)-4-methoxy-4-piperidyl (Q) or SiMe2CMe3 in the presence of an activating agent. Ribosyluracil I [U = uracil residue, Dmtr = dimethoxytrityl] (II) [obtained via reaction of [Me2CHN]2POCH2CH2CN with the appropriate protected ribosyluracil] on a **solid support** was detritylated and the product condensed with II in the presence of 5-(4-nitrophenyl)tetrazole, the product detritylated, the cycle repeated 6 more times, and the solid-supported product deprotected and cleaved from the support to give .alpha.-[(Up)7U]. .alpha.-[(Up)5U] and .alpha.-[(Up)11U] were prepd. similarly. These products were as stable as the corresponding .beta. anomers to nucleases and in nucleic acid hybridization expts.

IT 59279-50-4P 129666-64-4P 129666-65-5P
 129666-66-6P 129666-67-7P 129666-68-8P
 129666-72-4P 129666-73-5P 129666-74-6P
 129666-75-7P 129666-76-8P 129666-79-1P
 129666-80-4P 129666-81-5P 129666-82-6P
 129681-71-6P 129707-10-4P 129707-11-5P
 129707-13-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
 (prepn. and reaction of, in prepn. of .alpha.-
 oligonucleotides)

IT 129666-60-0P 129666-61-1P 129681-69-2P
 129681-70-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
 (prepn. of, as monomer in prepn. of .alpha.-
 oligonucleotides)

L47 ANSWER 19 OF 25 CAPLUS COPYRIGHT 2001 ACS
 ACCESSION NUMBER: 1988:455161 CAPLUS
 DOCUMENT NUMBER: 109:55161
 TITLE: Solid phase synthesis of the

3'-terminal nonadecaribonucleoside
octadecaphosphate sequence of yeast alanine
transfer ribonucleic acid

AUTHOR(S): Rao, T. Sudhakar; Reese, Colin B.; Serafinowska,
Halina T.; Takaku, Hiroshi; Zappia, Giovanni

CORPORATE SOURCE: Dep. Chem., King's Coll., London, WC2R 2LS, UK

SOURCE: Tetrahedron Lett. (1987), 28(41), 4897-900

CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 109:55161

AB The rapid synthesis of the 3'-terminal decaribonucleoside
nonaphosphate and nonadecaribonucleoside octadecaphosphate sequences
of yeast tRNA^{Ala} by the phosphoramidite approach on controlled pore
glass is described. The synthetic products were found to be
identical to the authentic **oligoribonucleotides**,
prepd. by the phosphotriester approach in soln.

IT 115436-45-8P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and attachment of, to functionalized controlled-pore
glass)

IT 115436-45-8DP, controlled-pore glass-supported

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and automated **synthesis** with, of
oligoribonucleotides)

L47 ANSWER 20 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1988:438154 CAPLUS

DOCUMENT NUMBER: 109:38154

TITLE: **Synthesis** of DNA fragments
linked to a **solid support**

AUTHOR(S): Pochet, Sylvie; Huynh Dinh, Tam; Igolen, Jean

CORPORATE SOURCE: Dep. Biochim. Genet. Mol., Inst. Pasteur, Paris,
75724/15, Fr.

SOURCE: Tetrahedron (1987), 43(15), 3481-90

CODEN: TETRAB; ISSN: 0040-4020

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Two simple procedures for the **prepn.** of DNA
fragments covalently and specifically linked to a **solid**
support are presented. The first method consists of the
prepn. of a nucleoside primer which serves as the initiative site
for conventional synthesis of oligomers in either 3' or 5'
direction. The second procedure involves the direct attachment of
independently synthesized and purified oligomers to a functionalized
solid support. The accessibility of such
supported oligodeoxynucleotides to enzymes is checked with
restriction endonucleases.

09/076956

IT 99335-99-6 115244-17-2

RL: RCT (Reactant)

(coupling of, to **solid supports**)

IT 99335-99-6DP, polymer-bound 115244-17-2DP,
polymer-bound

RL: SPN (Synthetic preparation); PREP (Preparation)

(**prepn. and polynucleotide synthesis**
with)

L47 ANSWER 21 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1987:554695 CAPLUS

DOCUMENT NUMBER: 107:154695

TITLE: A process for the **preparation** of
oligoribonucleotides by the
solid phase method

INVENTOR(S): Otsuka, Eiko

PATENT ASSIGNEE(S): Ajinomoto Co., Inc., Japan

SOURCE: Jpn. Kokai Tokkyo Koho, 8 pp.

CODEN: JKXXAF

DOCUMENT TYPE: Patent

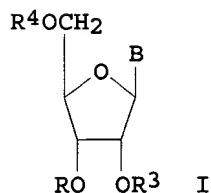
LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 62096497	A2	19870502	JP 1985-235802	19851022

GI



AB The title process comprises selective cleavage of arylamide groups by isoamyl nitrite in **solid support**-bound oligonucleotide- or nucleotidephosphoramides I; R = (R2O)P(O)NHR1; R1 = Ph, p-MeOC6H4; R2 = o-ClC6H4, p-ClC6H4, NCCH2CH2; R3 = tetrahydrofuranyl, tetrahydropyranyl, methoxypyranyl, Me3CMe2Si; R4 = org. residue bound to **solid support**; B = uracil, 4-N-acylcytosine, 2-N-acylguanine, or 6-N-acyladenine

Searcher : Shears 308-4994

residue] and activation of the resulting C-3' terminal phosphodiester followed by condensation with a nucleotide or a nucleoside resulting in extension of the oligoribonucleotide chain at the C-3' terminus. A mixt. of 5 .mu.mol resin-bound nucleotide I [R = (R2O)P(O)NHR1, R1 = p-MeOC6H4, R2 = o-ClC6H4, R3 = tetrahydrofuranyl, R4 = aminomethylpolystyrene-bound COCH2CH2CO, B = N-benzoylcytidine residue] (50 mg resin) and 0.5 mL isoamyl nitrite in 5 mL pyridine-AcOH (1:1) was shaken for 1 h at 30.degree. and the resin was removed by filtration and washed successively by 0.5 M Et3N.cntdot.AcOH in DMF, Cl2CH2, Et2O, THF, and pyridine and finally dried by distn. of pyridine. The resin thus treated was used for prepg. CAGGUAAGU by successive coupling with the corresponding nucleotide and nucleoside derivs.

IT 102386-02-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and esterification of, with pentachlorophenol)

IT 102386-01-6DP, aminomethylpolystyrene-bound

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and solid phase-
oligonucleotide coupling with)

L47 ANSWER 22 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1987:407503 CAPLUS

DOCUMENT NUMBER: 107:7503

TITLE: Nucleoside H-phosphonates. IV. Automated
solid phase synthesis
of oligoribonucleotides by the
hydrogenphosphonate approach

AUTHOR(S): Garegg, Per J.; Lindh, Ingvar; Regberg, Tor;
Stawinski, Jacek; Stroemberg, Roger; Henrichson,
Christina

CORPORATE SOURCE: Dep. Org. Chem., Univ. Stockholm, Stockholm, 106
91, Swed.

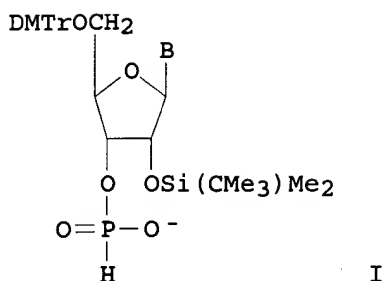
SOURCE: Tetrahedron Lett. (1986), 27(34), 4055-8
CODEN: TELEAY; ISSN: 0040-4039

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 107:7503

GI



AB A rapid and efficient **synthesis** of **oligoribonucleotides** on **solid support** is described via coupling ribonucleoside 3'-H-phosphonates I (B = uracilyl, N4-benzoylcytosinyl, N2-isobutyrylguaninyl, N6-benzoyladeninyl; DMTr = dimethoxytrityl) to the polymer bound nucleoside in the presence of pivaloyl chloride as coupling agent.

IT 81246-80-2 81256-87-3 81265-93-2
81279-39-2

RL: RCT (Reactant)
(phosphorylation of, in automated **solid-phase synthesis** of **oligoribonucleotides** by hydrogenphosphonate approach)

IT 108586-55-6P 108586-57-8P 108586-59-0P
108586-61-4P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, intermediate in automated **solid-phase synthesis** of **oligoribonucleotides**)

L47 ANSWER 23 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1983:161100 CAPLUS

DOCUMENT NUMBER: 98:161100

TITLE: Selective 2'-benzoylation of the cis 2',3'-diols of protected ribonucleosides. New **solid phase synthesis** of RNA and DNA-RNA mixtures

AUTHOR(S): Kempe, Tomas; Chow, Flora; Sundquist, Wesley I.; Nardi, Thomas J.; Paulson, Brad; Peterson, Susan M.

CORPORATE SOURCE: Mol. Genet., Inc., Minnetonka, MN, 55343, USA

SOURCE: Nucleic Acids Res. (1982), 10(21), 6695-714

CODEN: NARHAD; ISSN: 0305-1048

DOCUMENT TYPE: Journal

LANGUAGE: English

AB 5'-O-(Dimethoxytrityl)-2'-O-(benzoyl or 3,4,5-trimethoxybenzoyl)-

base protected ribonucleosides were prepd. by selective benzylation of the 2'-hydroxyl group. The isomerization of the 2'-benzoates to the 3'-benzoates was studied. The protected ribonucleosides were converted to either methylphosphochloridites or methylphosphoamidites and used to **synthesize oligoribonucleotides** on silica gel **solid support**. The synthetic RNA were deprotected and isolated using conditions that minimize internucleotide cleavage. The use of 2'-benzoates as protecting groups for ribonucleosides made it possible to easily **prep.** and isolate mixts. of **DNA** and RNA.

IT 81246-76-6 81246-79-9 81246-82-4

81246-83-5 81352-26-3

RL: RCT (Reactant)

(benzylation of)

IT 85315-93-1P 85315-94-2P 85315-95-3P

85315-96-4P 85315-97-5P 85316-04-7P

85322-66-3P 85322-67-4P 85342-71-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and deprotection of)

IT 85315-85-1P 85315-86-2P 85315-87-3P

85315-88-4P 85315-89-5P 85315-90-8P

85315-91-9P 85315-92-0P 85316-03-6P

RL: SPN (Synthetic preparation); PREP (Preparation)

(prepn. of)

L47 ANSWER 24 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1982:598508 CAPLUS

DOCUMENT NUMBER: 97:198508

TITLE: **Solid-phase synthesis of the**

RNA fragment: rAAGAAGAAGAAGA

AUTHOR(S): Van der Marel, G. A.; Wille, G.; Van Boom, J. H.

CORPORATE SOURCE: Gorlaeus Lab., Leiden, 2300 RA, Neth.

SOURCE: Recl.: J. R. Neth. Chem. Soc. (1982), 101(7-8),

241-6

CODEN: RJRSDK

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The **synthesis** of the **tridecaribonucleotide**

AAGAAGAAGAAGA on a polystyrene **solid support** via

a phosphotriester approach is described. The assemblage of the oligomer was performed by 4 repeated coupling reaction of the partially protected trimer AAGp(3') with an immobilized dimer in the presence of the activating agent (2,4,6-triisopropylbenzenesulfonyl)-3-nitro-1,2,4-triazole. Purifn. of the RNA fragment was easily achieved by Sephadex G50 column chromatog.

IT 83472-76-8P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)

(prepn. and coupling of, to polystyrene **solid support**, in **synthesis** of **tridecaribonucleotide**)

IT 69895-37-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and coupling of, with uridine phosphate deriv.)

IT 83472-80-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation)
(prepn. and coupling reaction of, with adenosine phosphate deriv.)

IT 83480-41-5P

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. and removal of tribromoethyl group and coupling to polystyrene support, in **synthesis** of **tridecaribonucleotide**)

IT 83472-77-9DP, polymer bound 83480-42-6DP, polymer bound

RL: SPN (Synthetic preparation); PREP (Preparation)
(prepn. of, intermediate in **synthesis** of **tridecaribonucleotide**)

IT 63358-76-9

RL: RCT (Reactant)
(removal of trichloroethyl group from)

L47 ANSWER 25 OF 25 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1981:121840 CAPLUS

DOCUMENT NUMBER: 94:121840

TITLE: **Synthesis of oligonucleotides**
on cellulose by a phosphotriester method

AUTHOR(S): Crea, Roberto; Horn, Thomas

CORPORATE SOURCE: Dep. Organ. Chem., Genentech, Inc., San Francisco, CA, 94080, USA

SOURCE: Nucleic Acids Res. (1980), 8(10), 2331-48
CODEN: NARHAD; ISSN: 0305-1048

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The synthesis of oligothymidylic acids, (dT)_m (m = 4, 7, 10, 13, 16, 19, 22, and 25), was carried out using a **solid phase** approach in combination with the modified phosphotriester methodol. developed in soln. Cellulose was used as the **solid support** after its functionalization with a specially featured dinucleoside diphosphate, 5'-O-p-chlorophenylphosphophenyl ester. The fully protected trideoxynucleoside triphosphate contg. only thymidine was repeatedly used to elongate the oligonucleotide chain in the 3'-5' direction. Individual coupling yields ranged from 45% to 75%. The total time needed to prep. (dT)₂₅ was 4 days. Similarly, the **tridecanucleotide** d(AGAAGGTACTTTT) was **synthesized**

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in good yield. This approach can be used for a fast and economic way to synthesize oligodeoxynucleotides.

IT 76726-22-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation) (prepn. and hydrolysis of)

IT 76726-27-7P 76726-28-8P

RL: SPN (Synthetic preparation); PREP (Preparation) (prepn. of)

FILE 'REGISTRY' ENTERED AT 15:24:08 ON 31 JUL 2001

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DICTIONARY FILE UPDATES: 30 JUL 2001 HIGHEST RN 349531-86-8

TSCA INFORMATION NOW CURRENT THROUGH January 11, 2001

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Structure search limits have been increased. See HELP SLIMIT for details.

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Searcher : Shears 308-4994

09/076956

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L48 ANSWER 1 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 289891-54-9 REGISTRY

CN Cytidine, N-acetyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(3-bromopropoxy)methyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

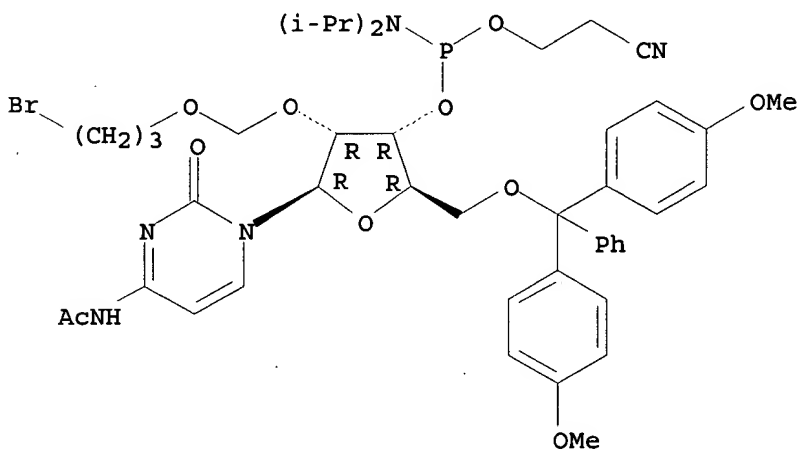
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MF C45 H57 Br N5 O10 P

SR CA

LC STN Files: CA, CAPLUS, CASREACT

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Searcher : Shears 308-4994

09/076956

REFERENCE 1: 133:208110

L48 ANSWER 13 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 231957-42-9 REGISTRY

CN Adenosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-[[2-chlorophenyl)methoxy]carbonyl]-2'-O-[[2-nitrophenyl)methoxy]methyl]-, 3'-(hydrogen butanedioate) (9CI) (CA INDEX NAME)

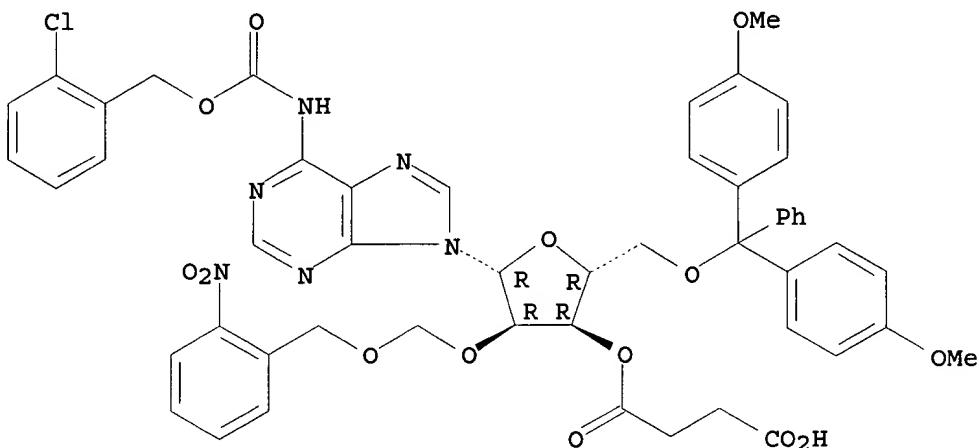
FS STEREOSEARCH

MF C51 H47 Cl N6 O14

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:116449

L48 ANSWER 30 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 219833-86-0 REGISTRY

CN Uridine, 3'-O-[bis(4-methoxyphenyl)phenylmethyl]-, 2'-acetate 5'-(hydrogen butanedioate) (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C36 H36 N2 O12

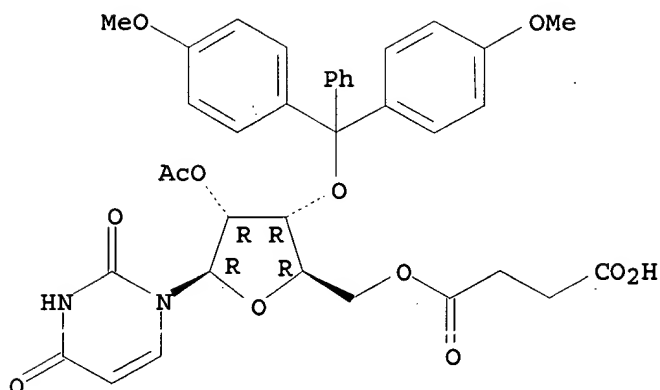
SR CA

LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.

Searcher : Shears 308-4994

09/076956



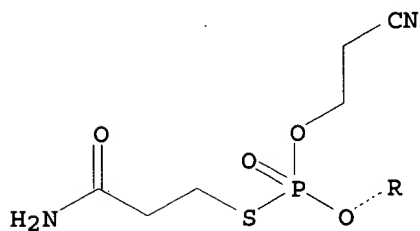
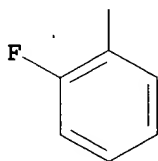
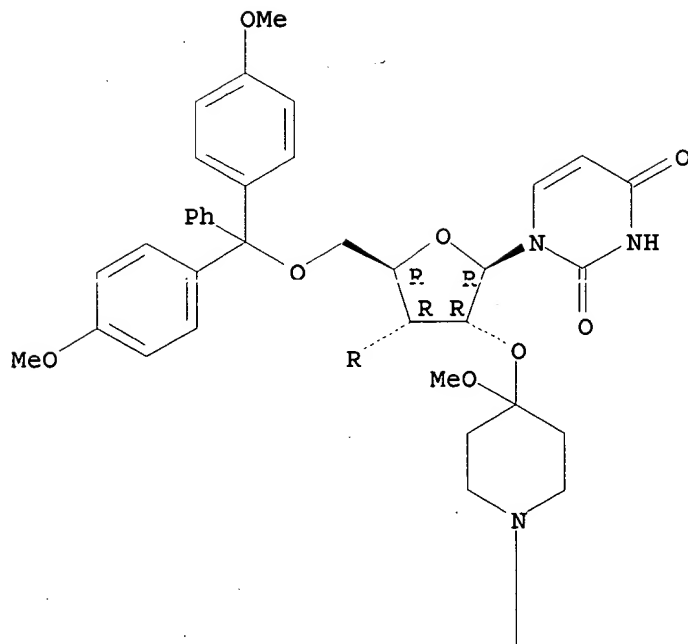
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1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:139588

L48 ANSWER 38 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 216692-11-4 REGISTRY
CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[1-(2-fluorophenyl)-4-methoxy-4-piperidinyl]-, 3'-[S-(3-amino-3-oxopropyl) O-(2-cyanoethyl) phosphorothioate] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C48 H53 F N5 O12 P S
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Searcher : Shears 308-4994



1 REFERENCES IN FILE CA (1967 TO DATE)
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

09/076956

24/5

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:38628

L48 ANSWER 41 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 213926-27-3 REGISTRY

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[4-[(6-isocyanatohexyl)amino]-4-oxobutanoate] (9CI) (CA INDEX NAME)

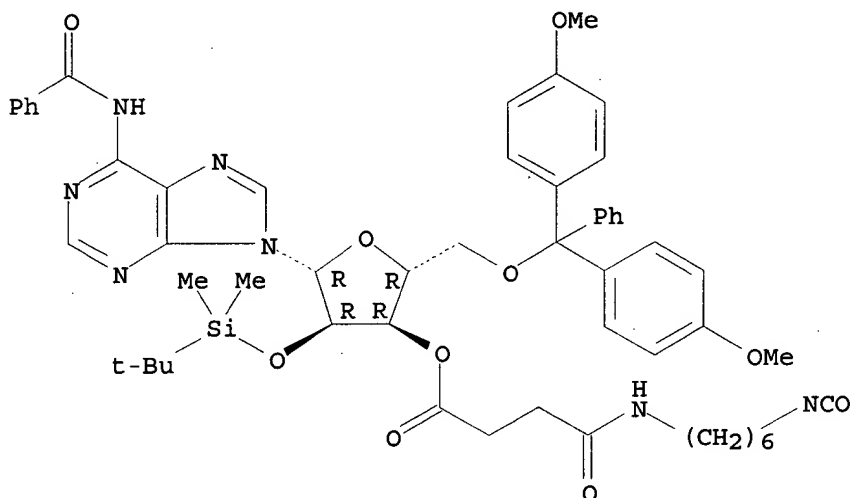
FS STEREOSEARCH

MF C55 H65 N7 O10 Si

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:276182

L48 ANSWER 43 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 211442-15-8 REGISTRY

CN 2,4(1H,3H)-Pyrimidinedione, 1-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-O-(3-carboxy-1-oxopropyl)-3-O-[methoxy[[6-[2-phenazinyl(phenoxyacetyl)amino]hexyl]oxy]phosphinyl]-.beta.-D-xylofuranosyl]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

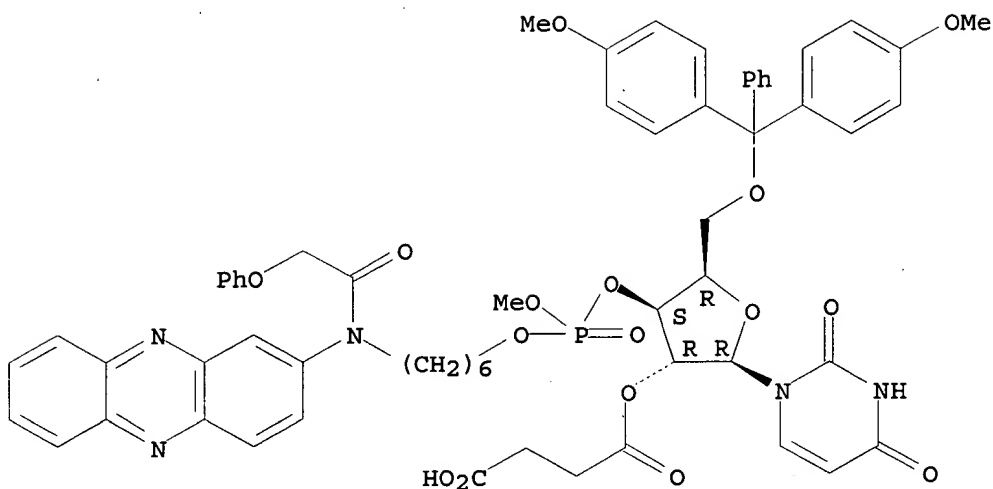
MF C61 H62 N5 O16 P

Searcher : Shears 308-4994

09/076956

SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

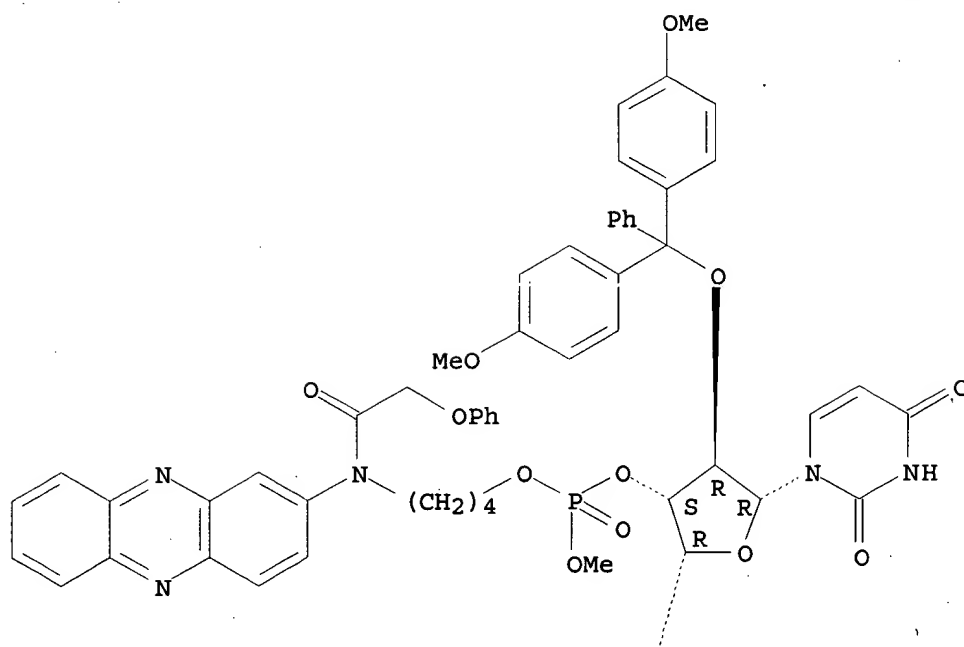
REFERENCE 1: 129:189598

L48 ANSWER 50 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 211441-99-5 REGISTRY
CN 2,4(1H,3H)-Pyrimidinedione, 1-[2,5-bis-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[methoxy[4-[2-phenazinyl(phenoxyacetyl)amino]butoxy]phosphinyl]-.beta.-D-xylofuranosyl]- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C76 H72 N5 O15 P
SR CA
LC STN Files: CA, CAPLUS

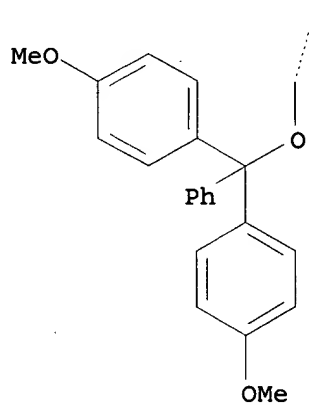
Absolute stereochemistry.

Searcher : Shears 308-4994

PAGE 1-A



PAGE 2-A



1 REFERENCES IN FILE CA (1967 TO DATE)
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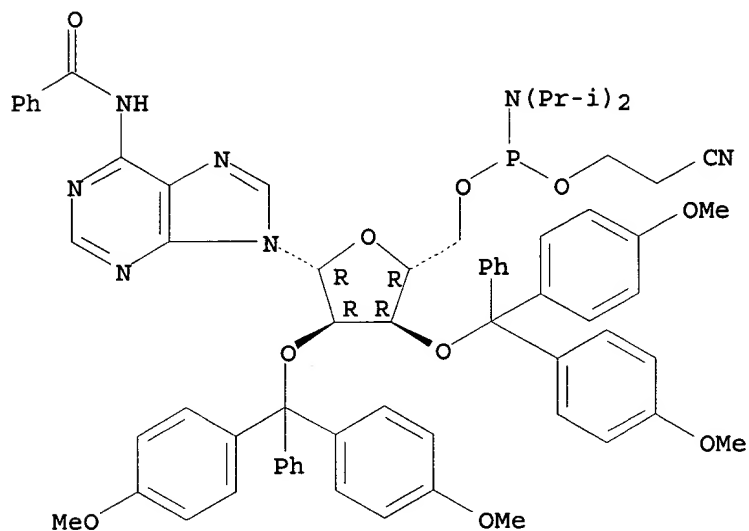
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Searcher : Shears 308-4994

09/076956

L48 ANSWER 62 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 204505-63-5 REGISTRY
CN Adenosine, N-benzoyl-2',3'-bis-O-[bis(4-methoxyphenyl)phenylmethyl]-
, 5'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA
INDEX NAME)
FS STEREOSEARCH
MF C68 H70 N7 O10 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:230626

L48 ANSWER 63 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 201855-47-2 REGISTRY
CN 3-Piperidinepropanoic acid, 1-[9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[2-(4-nitrophenyl)ethoxy]carbonyl]-.beta.-D-ribofuranosyl]-9H-purin-6-yl]-2,6-dioxo-,
2-(4-nitrophenyl)ethyl ester (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C56 H53 N7 O16
SR CA

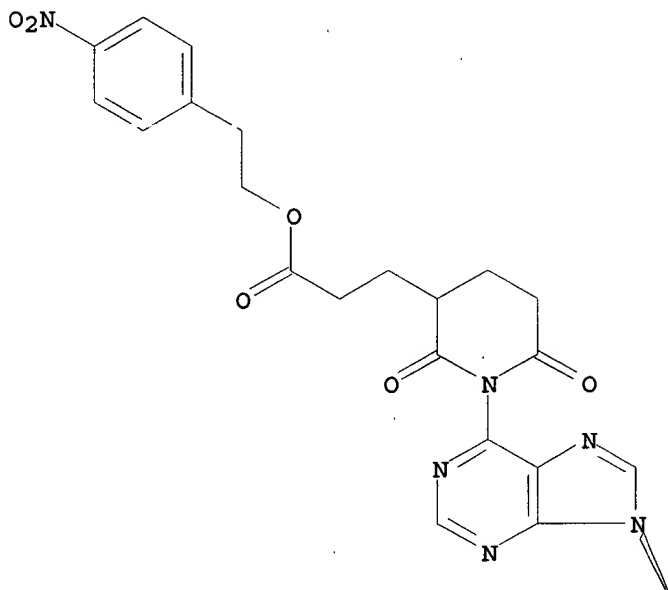
Searcher : Shears 308-4994

09/076956

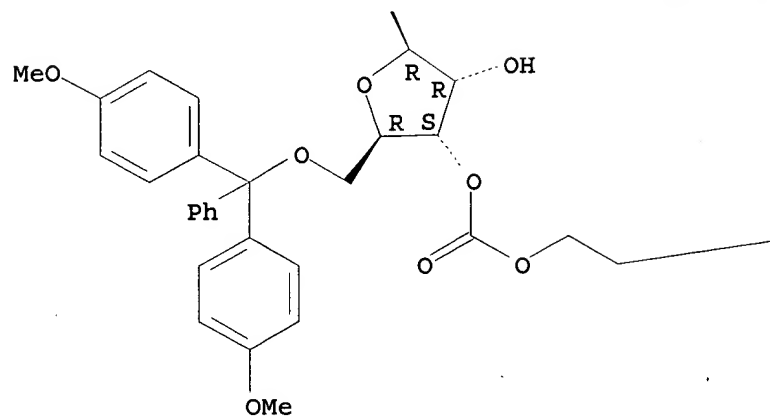
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

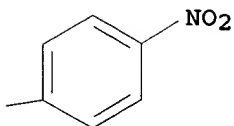
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PAGE 2-A



Searcher : Shears 308-4994



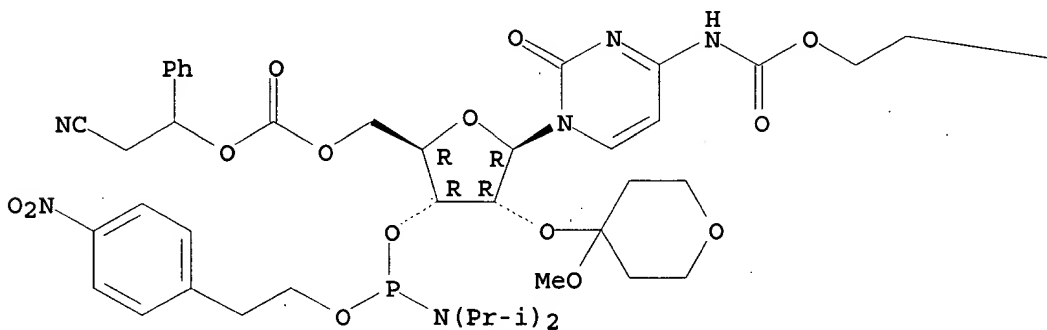
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1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

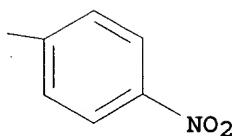
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L48 ANSWER 71 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 195881-48-2 REGISTRY
CN Cytidine, N-[[2-(4-nitrophenyl)ethoxy]carbonyl]-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)-, 5'-(2-cyano-1-phenylethyl carbonate)
3'-[2-(4-nitrophenyl)ethyl bis(1-methylethyl)phosphoramidite] (9CI)
(CA INDEX NAME)
FS STEREOSEARCH
MF C48 H58 N7 O16 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A





1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 127:262966

L48 ANSWER 87 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 183813-70-9 REGISTRY

CN Uridine, (R)-P-deoxy-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-5'-O-
[(4-methoxyphenyl)diphenylmethyl]-N-(1-methyl-2-
pyrrolidinylidene)cytidyl-(3'.fwdarw.5')-, 2',3'-dibenzoate (9CI)
(CA INDEX NAME)

FS STEREOSEARCH

MF C63 H69 N6 O15 P Si

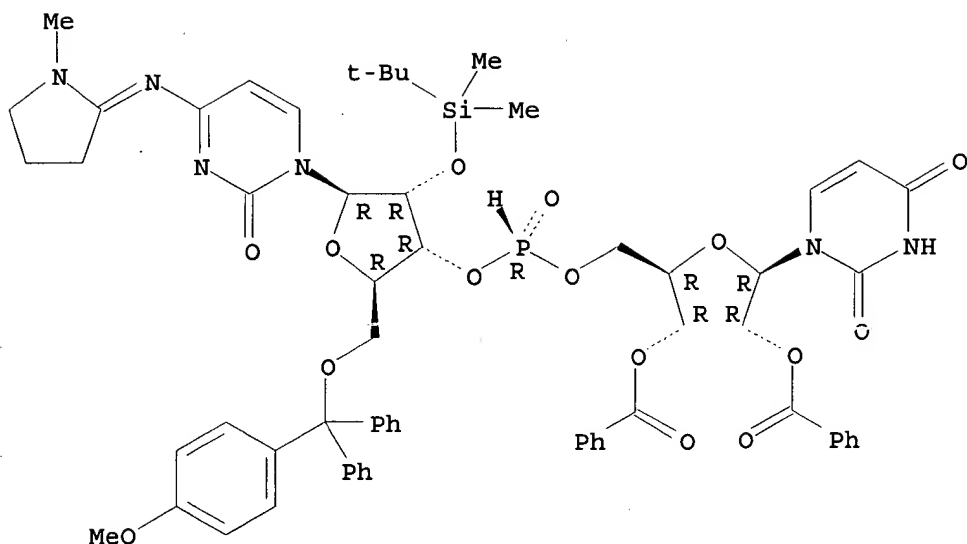
SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Double bond geometry unknown.

09/076956



1 REFERENCES IN FILE CA (1967 TO DATE) -
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

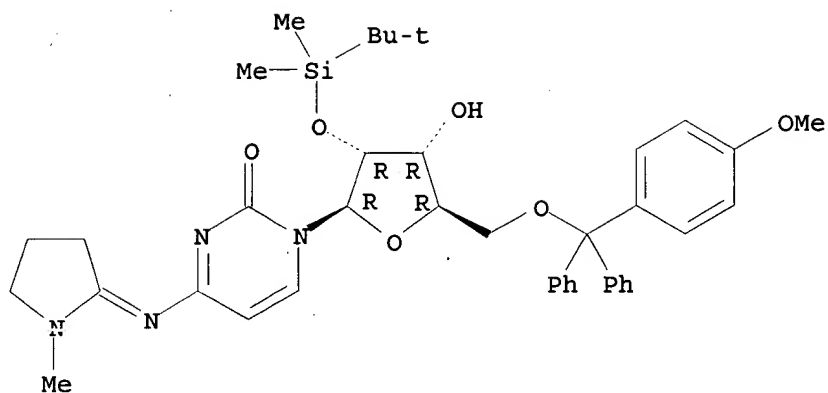
REFERENCE 1: 126:8480

L48 ANSWER 94 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 183593-25-1 REGISTRY
CN Cytidine, 2'-O-[(1,1-dimethylethyl)dimethylsilyl]-5'-O-[(4-methoxyphenyl)diphenylmethyl]-N-(1-methyl-2-pyrrolidinylidene)-(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C40 H50 N4 O6 Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.
Double bond geometry unknown.

Searcher : Shears 308-4994

09/076956



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:8480

L48 ANSWER 112 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 183592-98-5 REGISTRY

CN Uridine, 2'-O-[(1,1-dimethylethyl)diphenylsilyl]-5'-O-[(4-methoxyphenyl)diphenylmethyl]-, 3'-(hydrogen phosphonate), compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C45 H47 N2 O9 P Si . C6 H15 N

SR CA

LC STN Files: CA, CAPLUS

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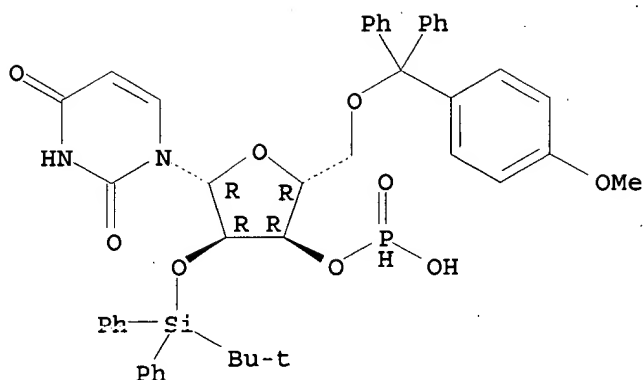
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CMF C45 H47 N2 O9 P Si

Absolute stereochemistry.

Searcher : Shears 308-4994

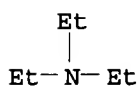
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CM 2

CRN 121-44-8

CMF C6 H15 N



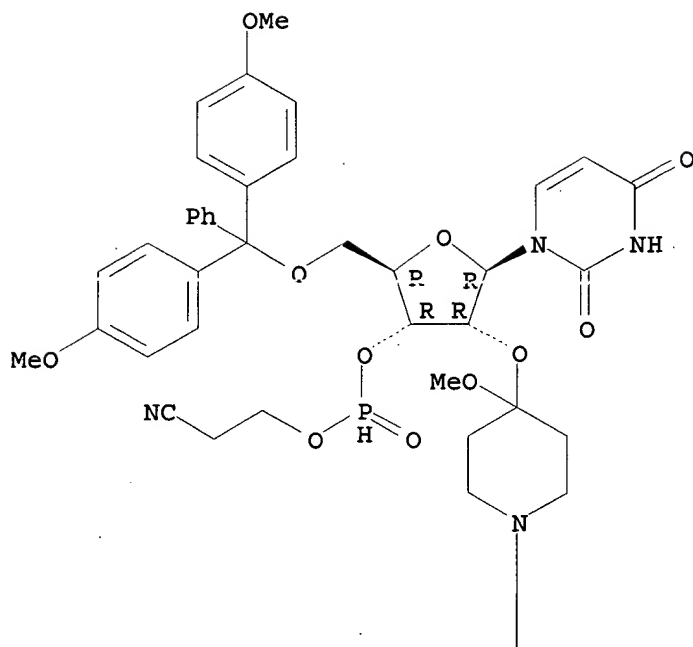
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:8480

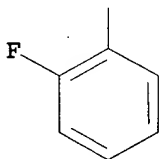
L48 ANSWER 113 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 160107-20-0 REGISTRY
CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[1-(2-fluorophenyl)-4-methoxy-4-piperidinyl]-, 3'-(2-cyanoethyl phosphonate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 216692-04-5
MF C45 H48 F N4 O11 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Searcher : Shears 308-4994



PAGE 2-A



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:38628

REFERENCE 2: 122:56375

L48 ANSWER 114 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 156046-21-8 REGISTRY

CN Adenosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-[[2-(4-nitrophenyl)ethoxy]carbonyl]-, 2'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] 3'-(4-nitrobenzeneethanesulfonate)

Searcher : Shears 308-4994

09/076956

(9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Benzeneethanesulfonic acid, 4-nitro-, ester with
2-(4-nitrophenyl)ethyl [9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-
O-[[bis(1-methylethyl)amino](2-cyanoethoxy)phosphino]-.beta.-D-
ribofuranosyl]-9H-purin-6-yl]carbamate

FS STEREOSEARCH

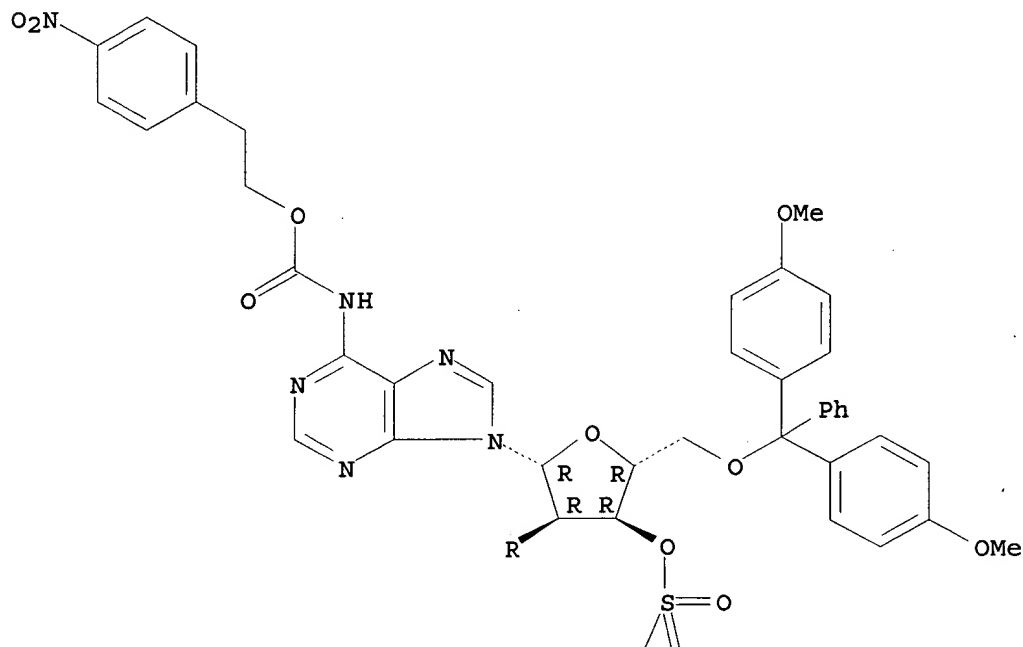
MF C57 H62 N9 O15 P S

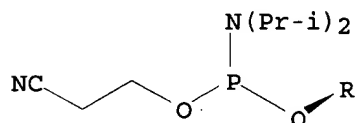
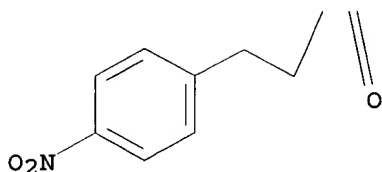
SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

PAGE 1-A





2 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:128236

REFERENCE 2: 121:36085

L48 . ANSWER 116 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 149622-84-4 REGISTRY

CN Cytidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[[2-nitrophenyl)methoxy]methyl]- (9CI) (CA INDEX NAME)

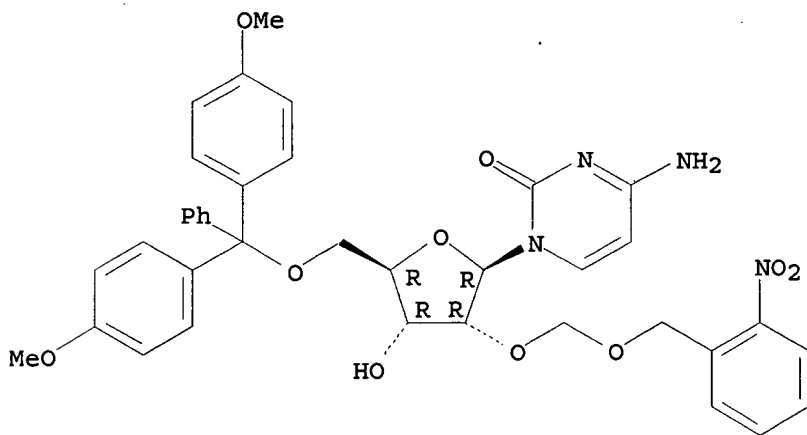
FS STEREOSEARCH

MF C38 H38 N4 O10

SR CA

LC STN Files: CA, CAPLUS, CASREACT

Absolute stereochemistry.



09/076956

2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 131:116449

REFERENCE 2: 119:226327

L48 ANSWER 118 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 149559-87-5 REGISTRY

CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-
[(dimethylamino)methylene]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-,
3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX
NAME)

FS STEREOSEARCH

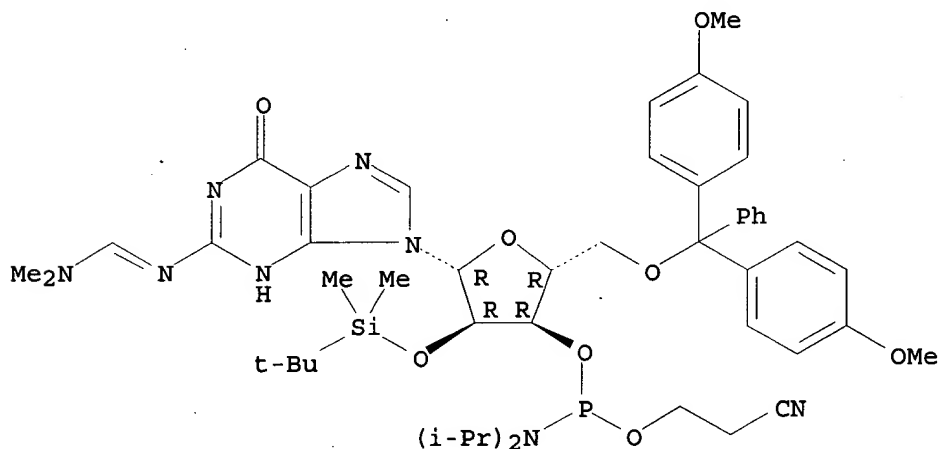
MF C49 H67 N8 O8 P Si

SR CA

LC STN Files: CA, CAPLUS, MSDS-OHS, USPATFULL

Absolute stereochemistry.

Double bond geometry unknown.



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:276182

REFERENCE 2: 119:139708

L48 ANSWER 119 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 149018-88-2 REGISTRY

CN Cytidine, N-benzoyl-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)-,

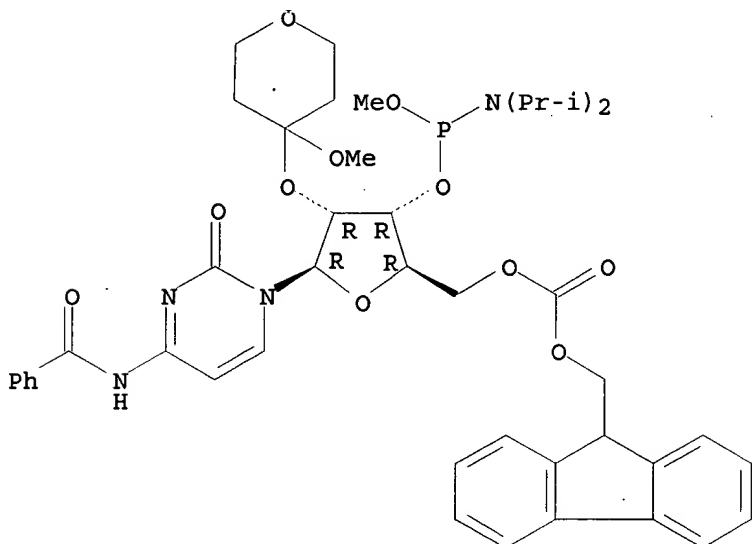
Searcher : Shears 308-4994

09/076956

5'-(9H-fluoren-9-ylmethyl carbonate) 3'-[methyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

FS STEREOSEARCH
MF C44 H53 N4 O11 P
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 119:117709

L48 ANSWER 122 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 147490-83-3 REGISTRY
CN Adenosine, N-(2,2-dimethyl-1-oxopropyl)-2'-O-[1-(2-fluorophenyl)-4-methoxy-4-piperidinyl]-5'-O-(9-phenyl-9H-xanthen-9-yl)-, 3'-(hydrogen butanedioate), compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C50 H51 F N6 O10 . C6 H15 N
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

CM 1

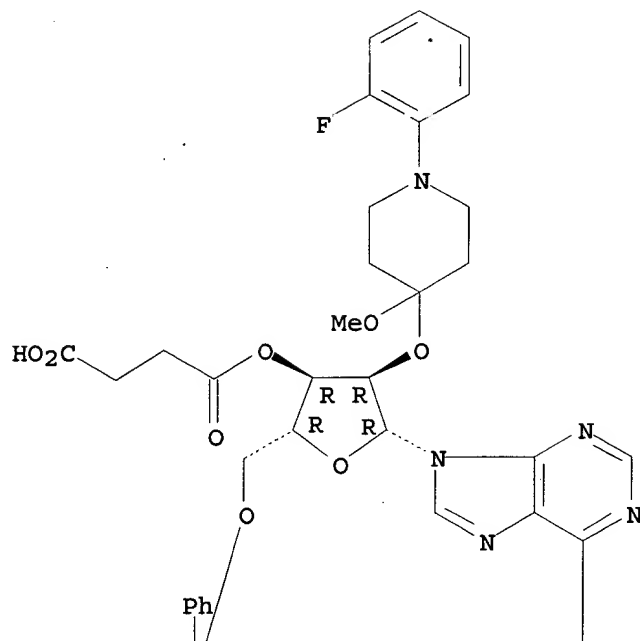
Searcher : Shears 308-4994

09/076956

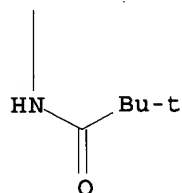
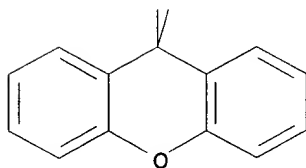
CRN 147490-82-2
CMF C50 H51 F N6 O10

Absolute stereochemistry.

PAGE 1-A



PAGE 2-A

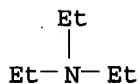


CM 2

CRN 121-44-8
CMF C6 H15 N

Searcher : Shears 308-4994

09/076956

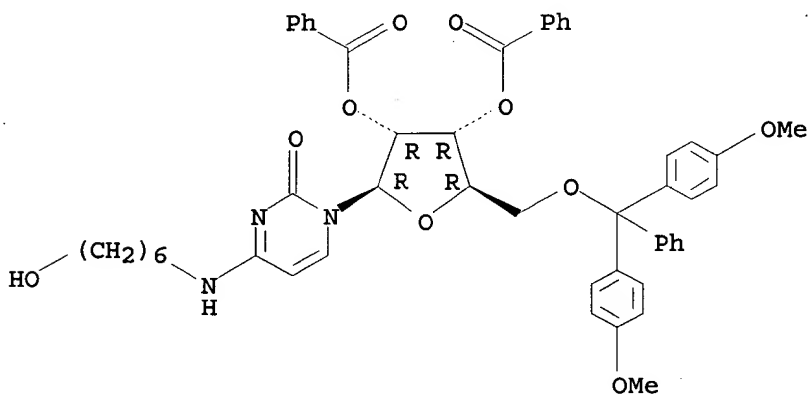


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 119:203741

L48 ANSWER 123 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 141719-91-7 REGISTRY
CN Cytidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-(6-hydroxyhexyl)-
, 2',3'-dibenzoate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C50 H51 N3 O10
SR CA
LC STN Files: CA, CAPLUS, USPATFULL

Absolute stereochemistry.



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 128:192872

REFERENCE 2: 124:9343

REFERENCE 3: 123:257264

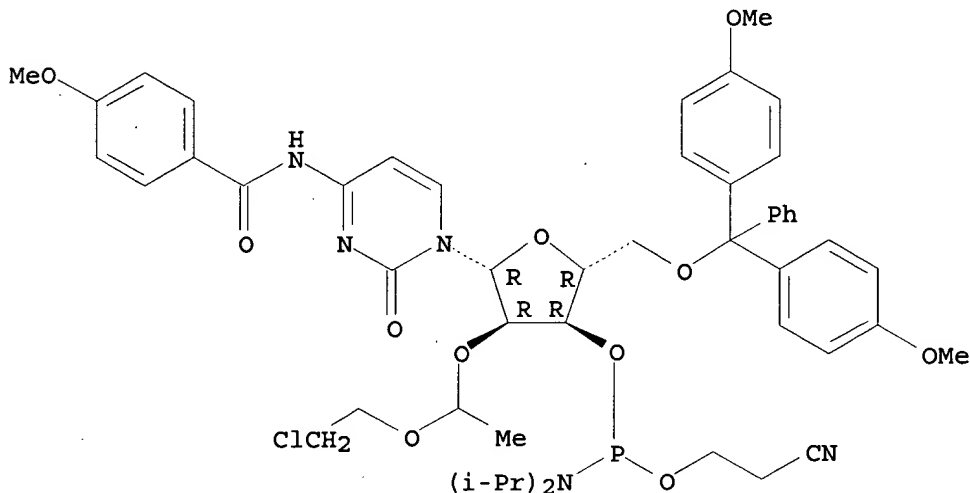
REFERENCE 4: 117:8373

Searcher : Shears 308-4994

09/076956

L48 ANSWER 126 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 138603-22-2 REGISTRY
CN Cytidine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[1-(2-chloroethoxy)ethyl]-N-(4-methoxybenzoyl)-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C51 H61 Cl N5 O11 P
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.



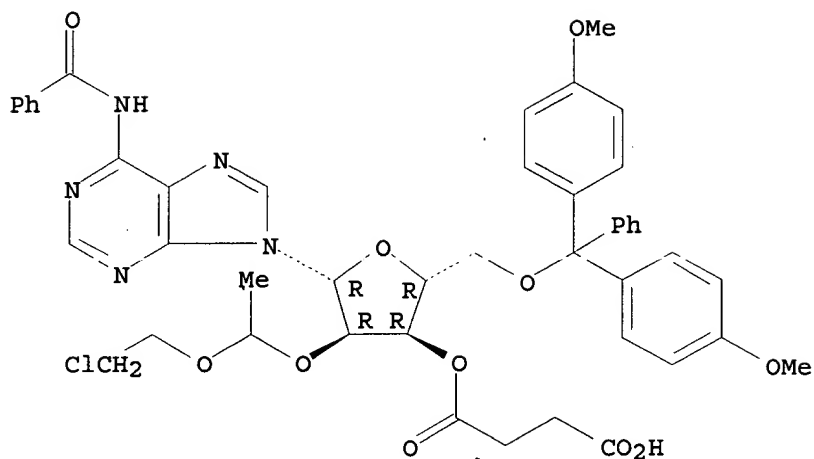
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 116:84093

L48 ANSWER 130 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 138494-35-6 REGISTRY
CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[1-(2-chloroethoxy)ethyl]-, 3'-(hydrogen butanedioate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C46 H46 Cl N5 O11
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Searcher : Shears 308-4994

Absolute stereochemistry.



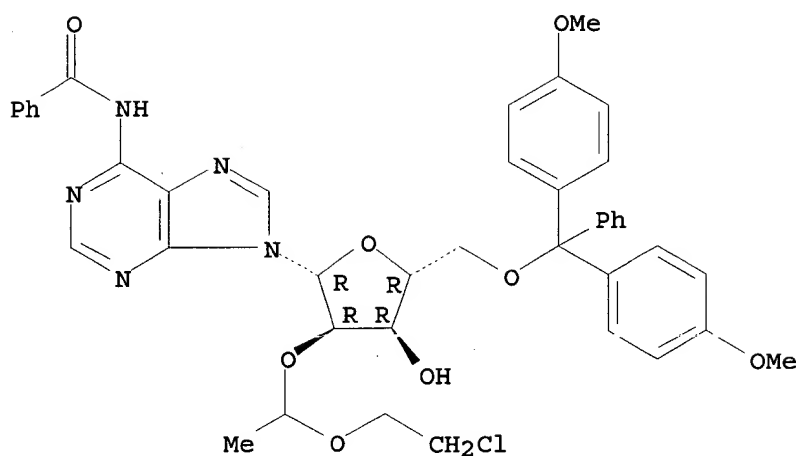
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 116:84093

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L48  ANSWER 135 OF 232  REGISTRY  COPYRIGHT 2001 ACS
RN   138078-31-6  REGISTRY
CN   Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[1-
      (2-chloroethoxy)ethyl]- (9CI)  (CA INDEX NAME)
FS   STEREOSEARCH
MF   C42 H42 Cl N5 O8
SR   CA
LC   STN Files:    BEILSTEIN*, CA, CAPLUS
      (*File contains numerically searchable property data)
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Absolute stereochemistry.

09/076956



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 116:84093

REFERENCE 2: 116:41988

L48 ANSWER 136 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 136292-88-1 REGISTRY

CN Guanosine, 2'-O-[1-(1-methylethoxy)ethyl]-N-(2-methyl-1-oxopropyl)-,
3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite]
5'-(9H-fluoren-9-ylmethyl carbonate) (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C43 H56 N7 O10 P

SR CA

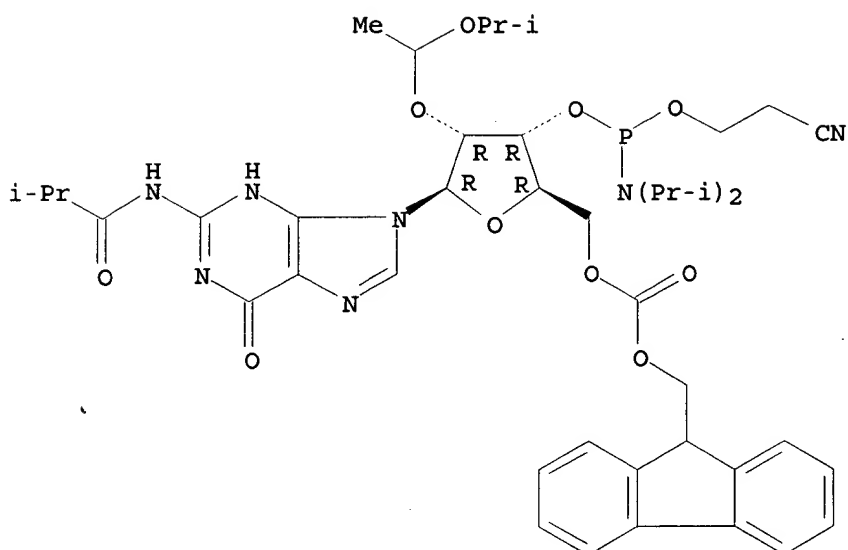
LC STN Files: BEILSTEIN*, CA, CAPLUS

(*File contains numerically searchable property data)

Absolute stereochemistry.

Searcher : Shears 308-4994

09/076956



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 115:183767

L48 ANSWER 137 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 136289-10-6 REGISTRY

CN Cytidine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[1-(1-methylethoxy)ethyl]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C42 H45 N3 O9

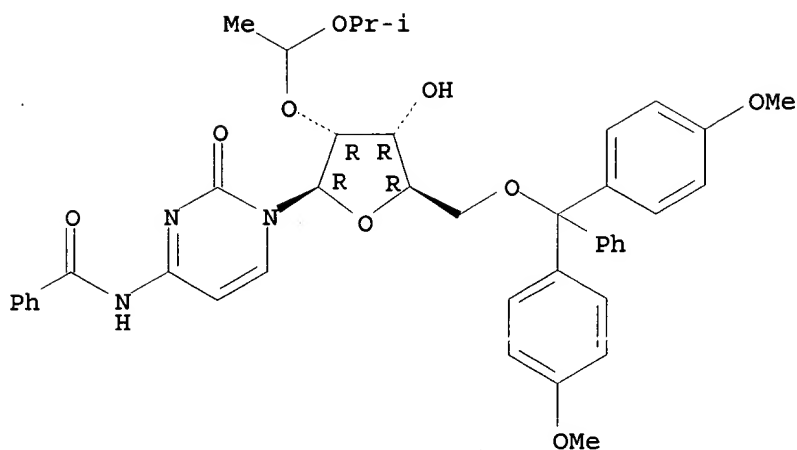
SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Searcher : Shears 308-4994

09/076956

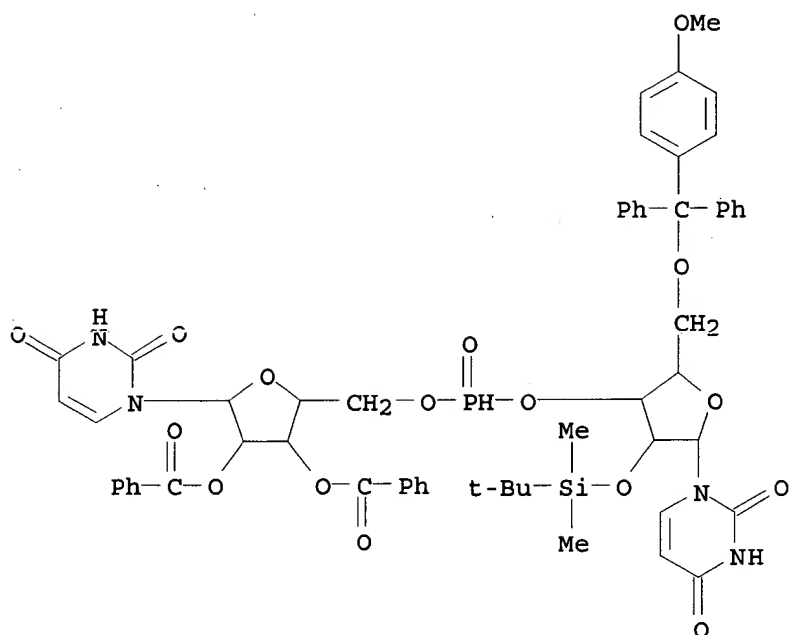


1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 115:183767

L48 ANSWER 145 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 135819-26-0 REGISTRY
CN Uridine, P-deoxy-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-5'-O-[(4-methoxyphenyl)diphenylmethyl]uridylyl-(3'.fwdarw.5')-,
2',3'-dibenzoate, (R)- (9CI) (CA INDEX NAME)
MF C58 H61 N4 O16 P Si
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

09/076956



2 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:8480

REFERENCE 2: 115:114975

L48 ANSWER 146 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 135780-94-8 REGISTRY

CN Uridine, 2'-O-[(1,1-dimethylethyl)dimethylsilyl]-5'-O-[(4-methoxyphenyl)diphenylmethyl]-, 3'-(hydrogen phosphonate), compd. with N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C35 H43 N2 O9 P Si . C6 H15 N

SR CA

LC STN Files: CA, CAPLUS

CM 1

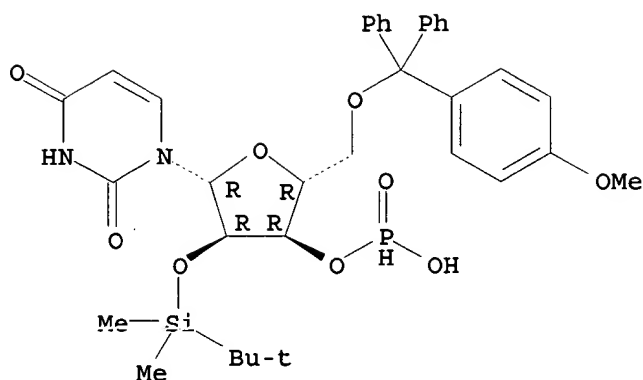
CRN 135704-46-0

CMF C35 H43 N2 O9 P Si

Absolute stereochemistry.

Searcher : Shears 308-4994

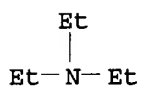
09/076956



CM 2

CRN 121-44-8

CMF C6 H15 N



6 REFERENCES IN FILE CA (1967 TO DATE)
6 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:8480
REFERENCE 2: 124:146701
REFERENCE 3: 121:301211
REFERENCE 4: 121:231258
REFERENCE 5: 120:299201
REFERENCE 6: 115:114978

L48 ANSWER 147 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 135760-21-3 REGISTRY

CN Uridine, P-deoxy-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-5'-O-[(4-methoxyphenyl)diphenylmethyl]uridylyl-(3'.fwdarw.5')-,
2',3'-dibenzoate, (S)- (9CI) (CA INDEX NAME)

MF C58 H61 N4 O16 P Si

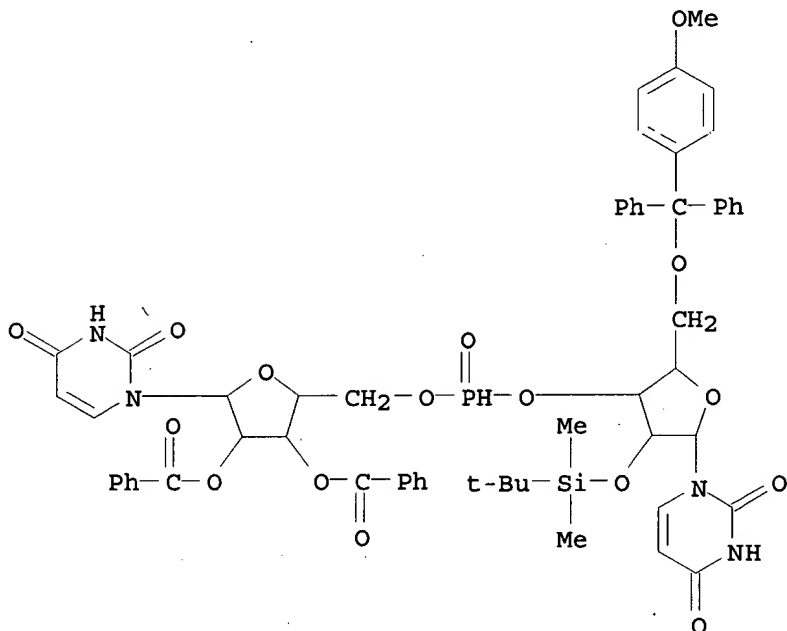
Searcher : Shears 308-4994

09/076956

SR CA

LC STN Files: BEILSTEIN*, CA, CAPLUS

(*File contains numerically searchable property data)



2 REFERENCES IN FILE CA (1967 TO DATE)

2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 126:8480

REFERENCE 2: 115:114975

L48 ANSWER 148 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 131316-88-6 REGISTRY

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-(hydrogen butanedioate) (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C48 H53 N5 O10 Si

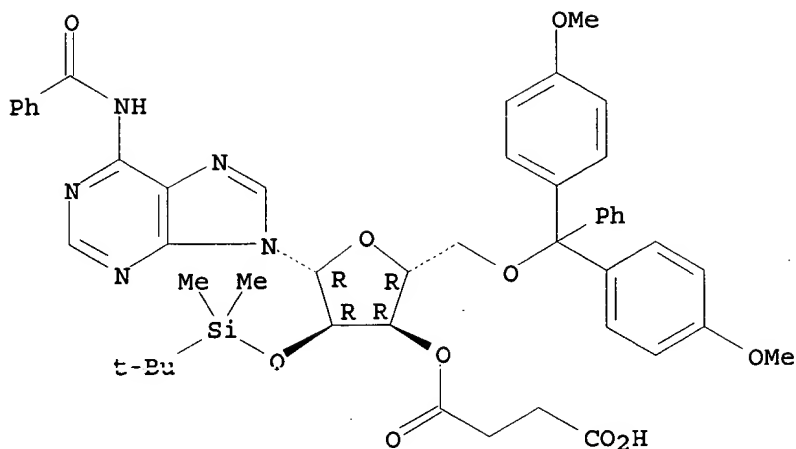
SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Searcher : Shears 308-4994

09/076956



4 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:276182

REFERENCE 2: 124:343960

REFERENCE 3: 120:107589

REFERENCE 4: 114:43472

L48 ANSWER 149 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 130530-61-9 REGISTRY

CN Uridine, 3-[11-[[[4-methoxyphenyl)diphenylmethyl]thio]undecyl]-, 2',3'-dibenzoate 5'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite], (S)- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C63 H75 N4 O10 P S

SR CA

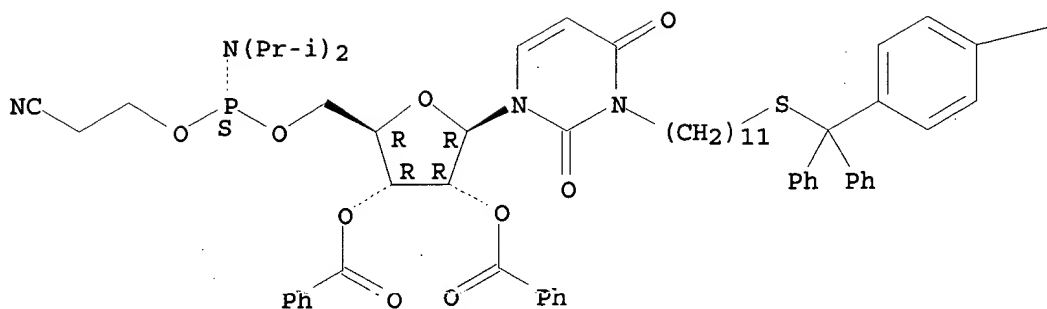
LC STN Files: BEILSTEIN*, CA, CAPLUS

(*File contains numerically searchable property data)

Absolute stereochemistry.

Searcher : Shears 308-4994

PAGE 1-A



PAGE 1-B

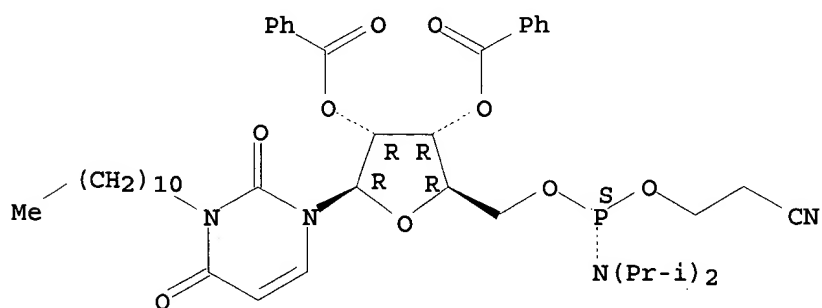
—OMe

1 REFERENCES IN FILE CA (1967 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 113:231900

L48 ANSWER 150 OF 232 REGISTRY COPYRIGHT 2001 ACS
 RN 130518-98-8 REGISTRY
 CN Uridine, 3-undecyl-, 2',3'-dibenzoate 5'-[2-cyanoethyl
 bis(1-methylethyl)phosphoramidite], (S)- (9CI) (CA INDEX NAME)
 FS STEREOSEARCH
 MF C43 H59 N4 O9 P
 SR CA
 LC STN Files: BEILSTEIN*, CA, CAPLUS
 (*File contains numerically searchable property data)

Absolute stereochemistry.



Searcher : Shears 308-4994

09/076956

1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 113:231900

L48 ANSWER 155 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 129707-13-7 REGISTRY

CN Benzamide, N-[9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-O-[(1,1-dimethylethyl)dimethylsilyl]-.alpha.-D-ribofuranosyl]-9H-purin-6-yl]-, (R)-(9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Phosphoramidous acid, bis(1-methylethyl)-, monomethyl ester, 3'-ester with N-[9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-O-[(1,1-dimethylethyl)dimethylsilyl]-.alpha.-D-ribofuranosyl]-9H-purin-6-yl]benzamide, (R)-

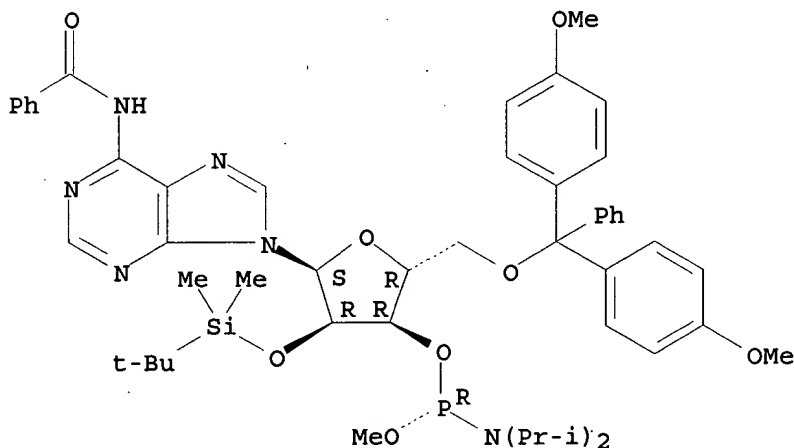
FS STEREOSEARCH

MF C51 H65 N6 O8 P Si

SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 117:27030

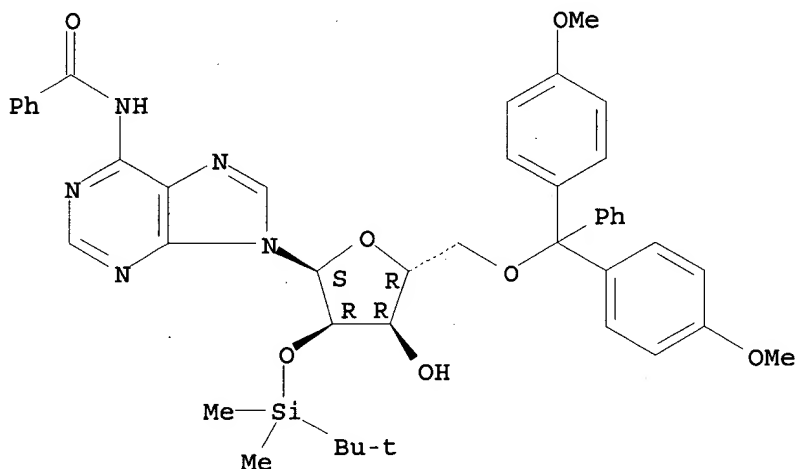
REFERENCE 2: 113:172652

Searcher : Shears 308-4994

09/076956

L48 ANSWER 158 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 129681-71-6 REGISTRY
CN Benzamide, N-[9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-O-[(1,1-dimethylethyl)dimethylsilyl]-.alpha.-D-ribofuranosyl]-9H-purin-6-yl]-(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C44 H49 N5 O7 Si
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 117:27030

REFERENCE 2: 113:172652

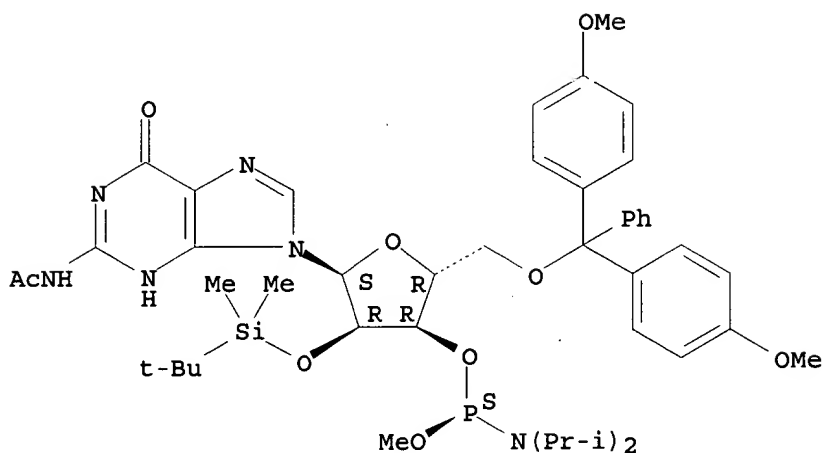
L48 ANSWER 161 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 129666-82-6 REGISTRY
CN Acetamide, N-[9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-3-O-[[bis(1-methylethyl)amino]methoxyphosphino]-2-O-[(1,1-dimethylethyl)dimethylsilyl]-.alpha.-D-ribofuranosyl]-6,9-dihydro-6-oxo-1H-purin-2-yl]-, (S)- (9CI) (CA INDEX NAME)
OTHER CA INDEX NAMES:
CN Phosphoramidous acid, bis(1-methylethyl)-, monomethyl ester, ester with N-[9-[5-O-[bis(4-methoxyphenyl)phenylmethyl]-2-O-[(1,1-dimethylethyl)dimethylsilyl]-.alpha.-D-ribofuranosyl]-6,9-dihydro-6-oxo-1H-purin-2-yl]acetamide, (S)-

Searcher : Shears 308-4994

09/076956

FS STEREOSEARCH
MF C46 H63 N6 O9 P Si
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



2 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

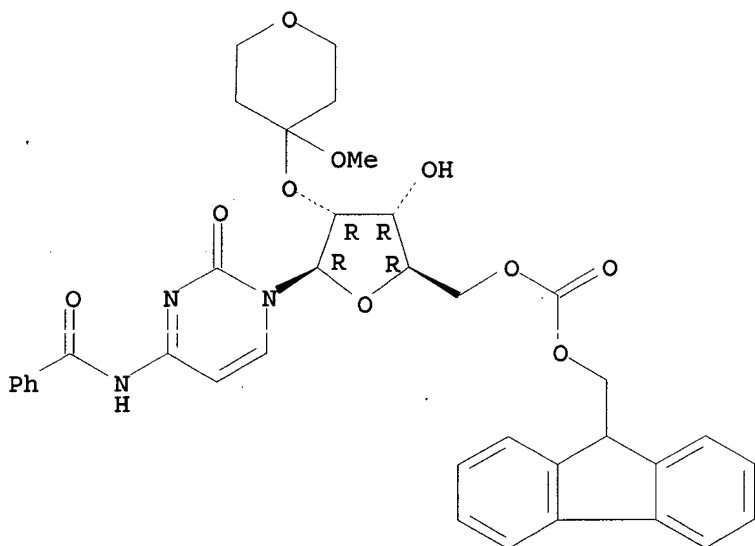
REFERENCE 1: 117:27030

REFERENCE 2: 113:172652

L48 ANSWER 177 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 123755-42-0 REGISTRY
CN Cytidine, N-benzoyl-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)-, 5'-(9H-fluoren-9-ylmethyl carbonate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C37 H37 N3 O10
SR CA
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

09/076956



3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 119:117709

REFERENCE 2: 116:21397

REFERENCE 3: 112:36365

L48 ANSWER 179 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 121058-86-4 REGISTRY

CN Adenosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(phenoxyacetyl)-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C54 H68 N7 O9 P Si

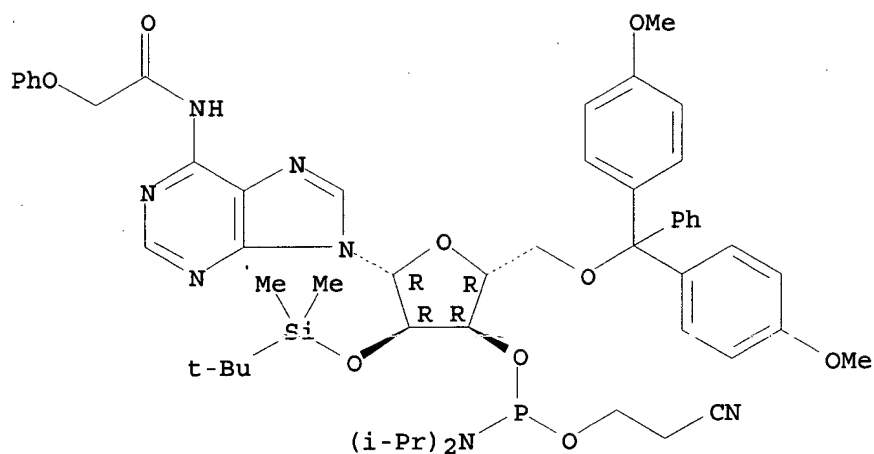
SR CA

LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, MSDS-OHS
(*File contains numerically searchable property data)

Absolute stereochemistry.

Searcher : Shears 308-4994

09/076956



3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 129:276182

REFERENCE 2: 112:198965

REFERENCE 3: 111:7733

L48 ANSWER 181 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 118684-40-5 REGISTRY

CN Cytidine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-
[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[methyl bis(1-
methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C50 H65 N4 O9 P Si

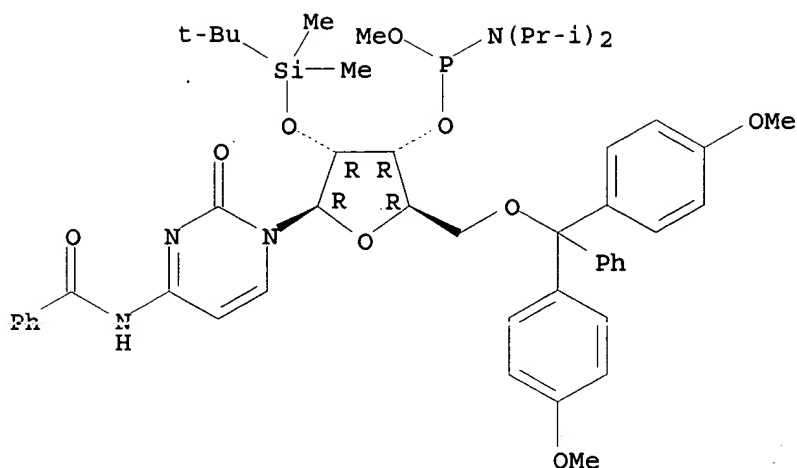
SR CA

LC STN Files: CA, CAPLUS, CASREACT

Absolute stereochemistry.

Searcher : Shears 308-4994

3/5



3 REFERENCES IN FILE CA (1967 TO DATE)
3 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 119:117719

REFERENCE 2: 114:122940

REFERENCE 3 : 110:135635

L48 ANSWER 182 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 118362-03-1 REGISTRY

CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-, 3'-[2-cyanoethyl bis(1-methylethyl)phosphoramidite] (9CI) (CA INDEX NAME)

FS STEREOSEARCH

DR 148471-47-0

MF C45 H61 N4 O9 P Si

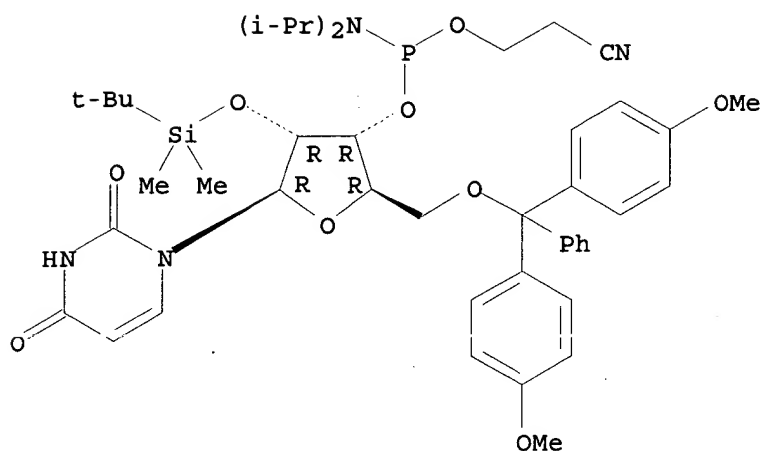
SR CA

LC STN Files: BEILSTEIN*, CA, CAPLUS, MSDS-OHS, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.

Searcher : Shears 308-4994

09/076956



17 REFERENCES IN FILE CA (1967 TO DATE)

17 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 134:219357

REFERENCE 2: 132:279431

REFERENCE 3: 132:166439

REFERENCE 4: 132:12481

REFERENCE 5: 130:264425

REFERENCE 6: 129:276182

REFERENCE 7: 125:276400

REFERENCE 8: 122:127234

REFERENCE 9: 120:192202

REFERENCE 10: 119:181129

L48 ANSWER 183 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 115436-45-8 REGISTRY

CN Adenosine, 2'-O-[1-(2-chloro-4-methylphenyl)-4-methoxy-4-piperidinyl]-N-[4-(1,1-dimethylethyl)benzoyl]-5'-O-(9-phenyl-9H-xanthen-9-yl)-, 3'-(hydrogen butanedioate) (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C57 H57 Cl N6 O10

SR CA

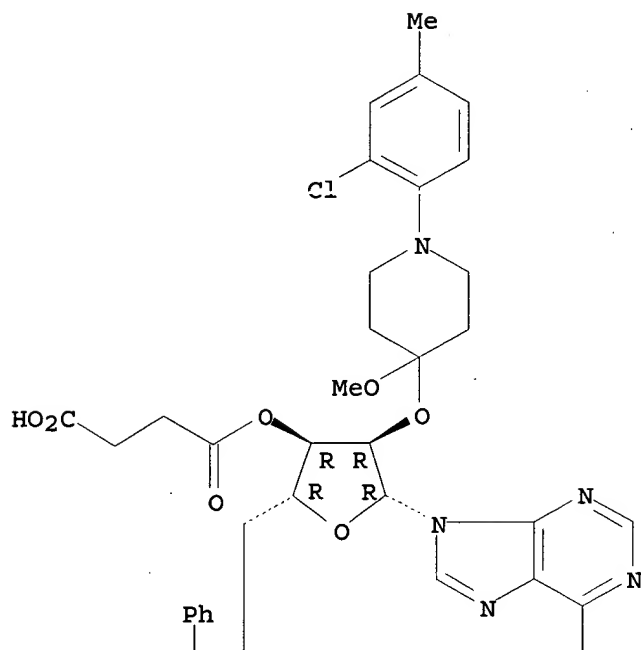
Searcher : Shears 308-4994

09/076956

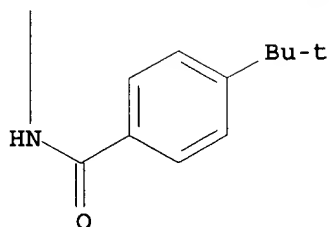
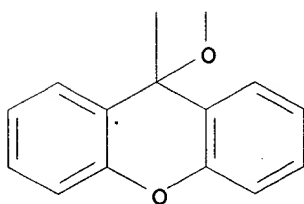
LC STN Files: CA, CAPLUS, CASREACT

Absolute stereochemistry.

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- 1 REFERENCES IN FILE CA (1967 TO DATE)
- 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
- 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 109:55161

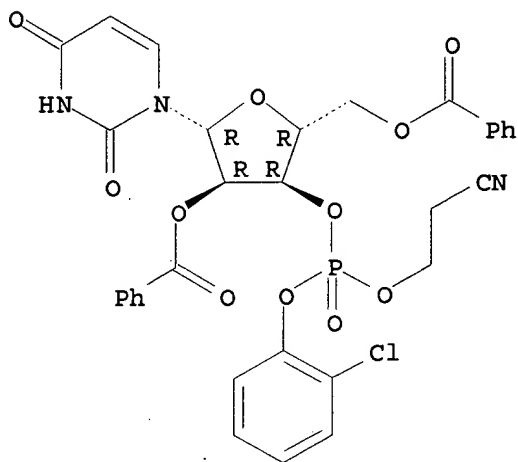
L48 ANSWER 184 OF 232 REGISTRY COPYRIGHT 2001 ACS

Searcher : Shears 308-4994

09/076956

RN 115244-17-2 REGISTRY
CN 3'-Uridylic acid, 2-chlorophenyl 2-cyanoethyl ester,
2',5'-dibenzoate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C32 H27 Cl N3 O11 P
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 109:38154

L48 ANSWER 185 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 108586-61-4 REGISTRY
CN 3'-Guanylic acid, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)-, compd. with
N,N-diethylethanamine (1:1) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C41 H52 N5 O11 P Si . C6 H15 N
SR CA
LC STN Files: CA, CAPLUS, CASREACT

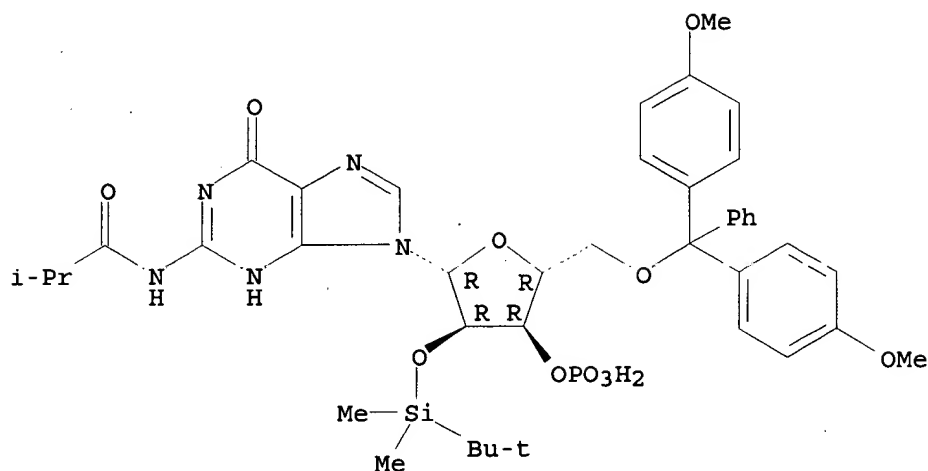
CM 1

CRN 108586-60-3
CMF C41 H52 N5 O11 P Si

Searcher : Shears 308-4994

09/076956

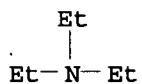
Absolute stereochemistry.



CM 2

CRN 121-44-8

CMF C6 H15 N



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 107:7503

L48 ANSWER 189 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 102386-02-7 REGISTRY

CN Cytidine, N-benzoyl-2'-O-(tetrahydro-2-furanyl)-, 3'-[2-chlorophenyl (4-methoxyphenyl)phosphoramidate] 5'-(hydrogen butanedioate) (9CI)
(CA INDEX NAME)

FS STEREOSEARCH

MF C37 H38 Cl N4 O13 P

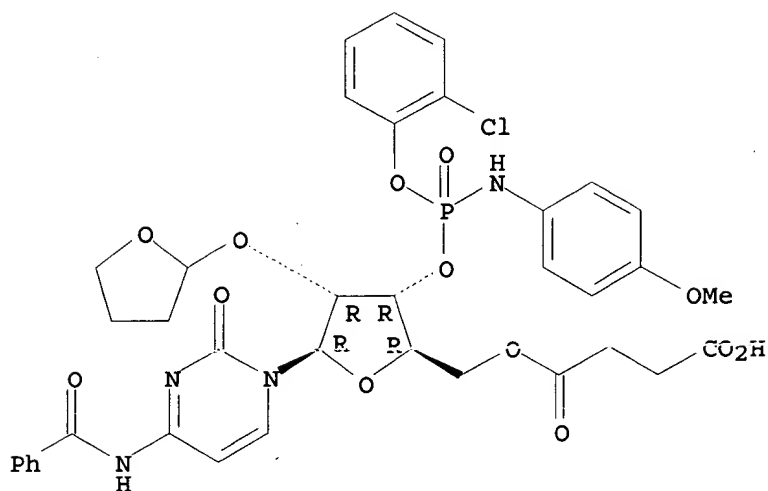
SR CA

LC STN Files: CA, CAPLUS

Absolute stereochemistry.

Searcher : Shears 308-4994

09/076956



2 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

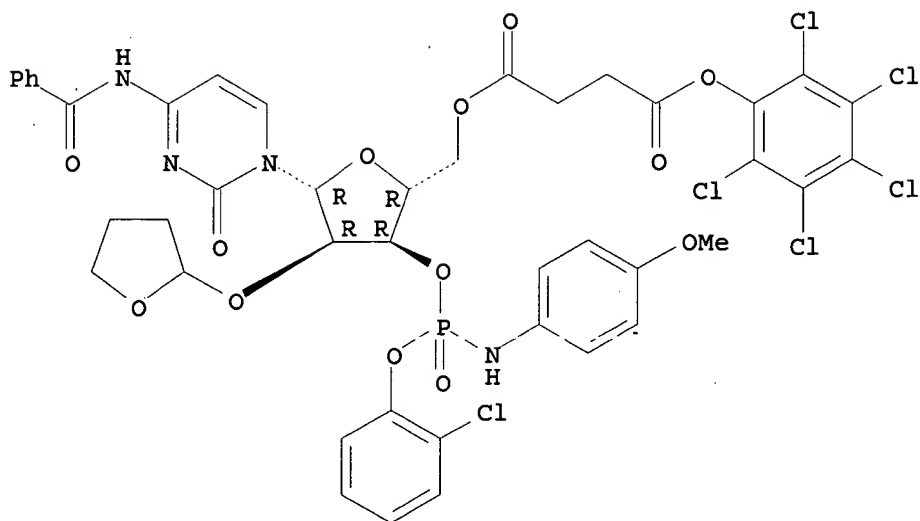
REFERENCE 1: 107:154695

REFERENCE 2: 104:225175

L48 ANSWER 190 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 102386-01-6 REGISTRY
CN Cytidine, N-benzoyl-2'-O-(tetrahydro-2-furanyl)-, 3'-[2-chlorophenyl
(4-methoxyphenyl)phosphoramidate] 5'-(pentachlorophenyl
butanedioate) (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C43 H37 Cl6 N4 O13 P
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.

09/076956



2 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

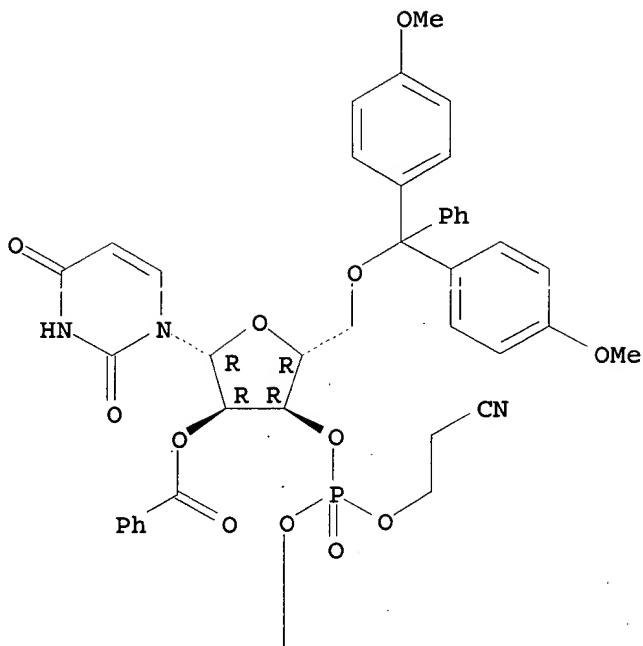
REFERENCE 1: 107:154695

REFERENCE 2: 104:225175

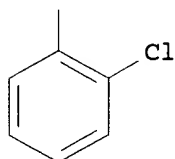
L48 ANSWER 191 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 99335-99-6 REGISTRY
CN 3'-Uridylic acid, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-, 2-chlorophenyl 2-cyanoethyl ester, 2'-benzoate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C46 H41 Cl N3 O12 P
SR CA
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.

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2 REFERENCES IN FILE CA (1967 TO DATE)
 2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 2 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 109:38154

REFERENCE 2: 104:6129

L48 ANSWER 192 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 85342-71-8 REGISTRY

CN Cytidine, 2'-O-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-(2-methyl-1-oxopropyl)guanylyl-(3'.fwdarw.5')-N-benzoyl- (9CI) (CA

Searcher : Shears 308-4994

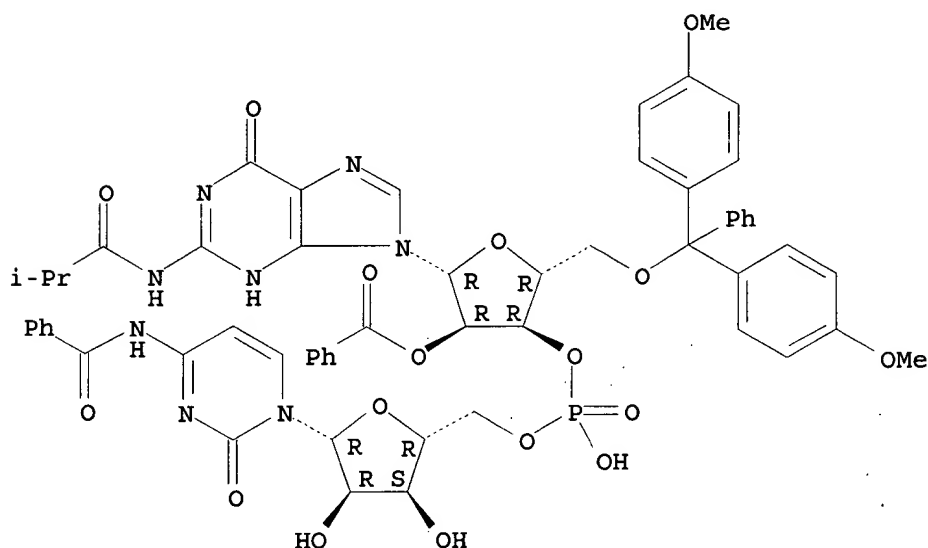
09/076956

INDEX NAME)

OTHER CA INDEX NAMES:

CN Guanosine, N-benzoylcytidyl- (5'.fwdarw.3')-5'-O- [bis (4-methoxyphenyl)phenylmethyl]-N- (2-methyl-1-oxopropyl)-, 2'-benzoate
FS STEREOSEARCH
MF C58 H57 N8 O17 P
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 98:161100

L48 ANSWER 193 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 85322-67-4 REGISTRY

CN Guanosine, 5'-O- [bis (4-methoxyphenyl)phenylmethyl]guanylyl- (3'.fwdarw.5')-guanylyl- (3'.fwdarw.5')-guanylyl- (3'.fwdarw.5')-2'-deoxycytidyl- (3'.fwdarw.5')-2'-deoxyadenyl- (3'.fwdarw.5')-thymidyl- (3'.fwdarw.5')-2'-deoxy- (9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

CN Guanosine, 2'-deoxyguanylyl- (5'.fwdarw.3')-thymidyl- (5'.fwdarw.3')-2'-deoxyadenyl- (5'.fwdarw.3')-2'-deoxycytidyl- (5'.fwdarw.3')-guanylyl- (5'.fwdarw.3')-guanylyl- (5'.fwdarw.3')-5'-O- [bis (4-methoxyphenyl)phenylmethyl]-

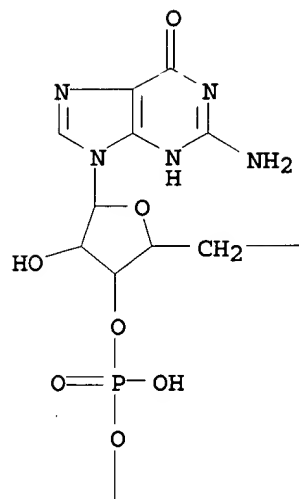
MF C90 H104 N30 O45 P6

Searcher : Shears 308-4994

09/076956

LC STN Files: CA, CAPLUS

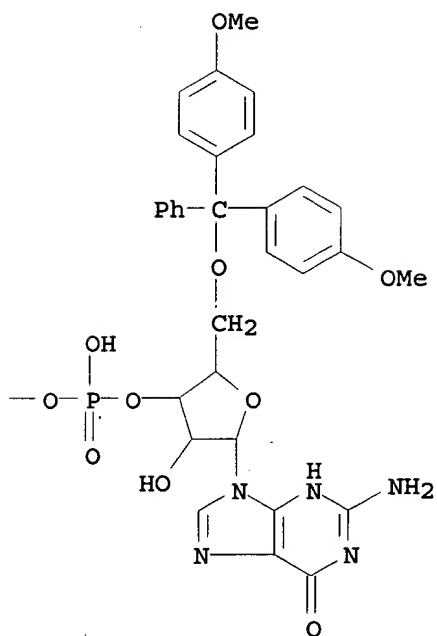
PAGE 1-A



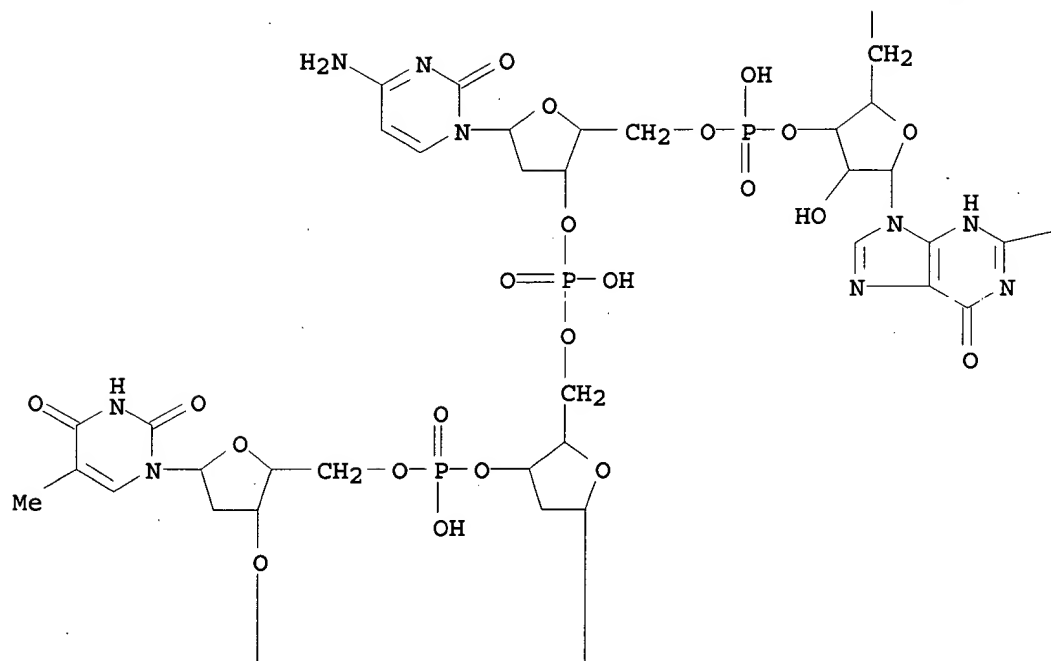
Searcher : Shears 308-4994

09/076956

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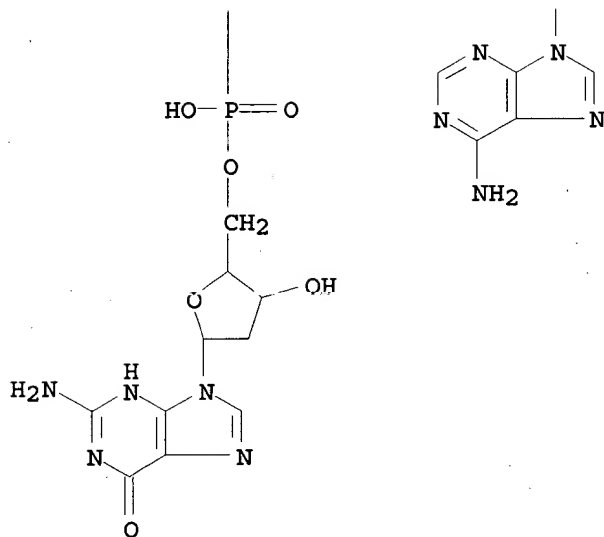


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PAGE 2-B

—NH₂



1 REFERENCES IN FILE CA (1967 TO DATE)

1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 98:161100

L48 ANSWER 195 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 85316-04-7 REGISTRY

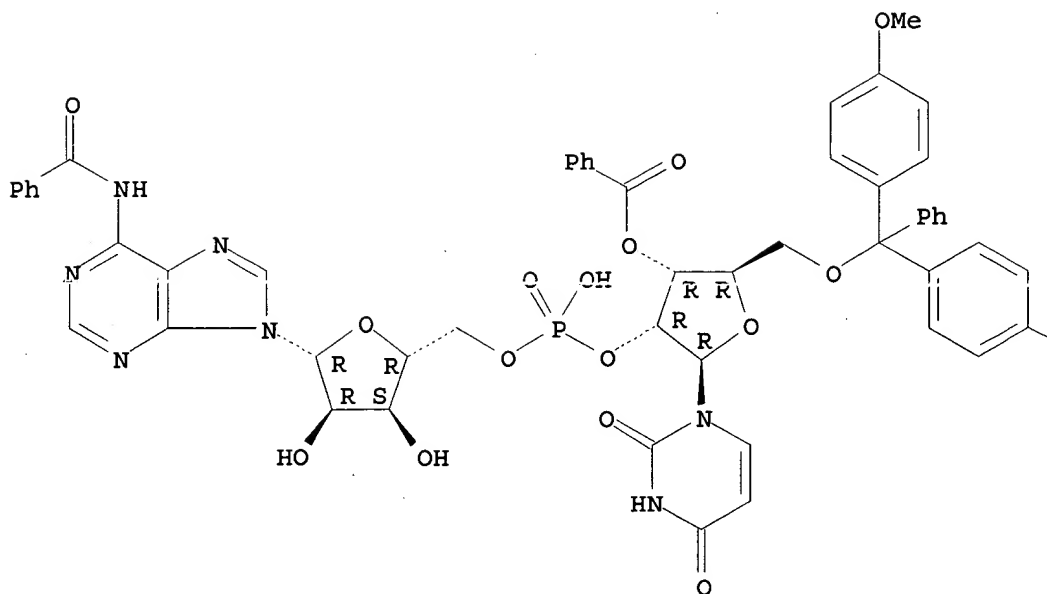
CN Adenosine, 3'-O-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]uridylyl-(2'.fwdarw.5')-N-benzoyl- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C54 H50 N7 O16 P

LC STN Files: CA, CAPLUS

Absolute stereochemistry.



OMe

1 REFERENCES IN FILE CA (1967 TO DATE)
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 98:161100

L48 ANSWER 197 OF 232 REGISTRY COPYRIGHT 2001 ACS
 RN 85315-97-5 REGISTRY

Searcher : Shears 308-4994

09/076956

CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]uridylyl-
(3'.fwdarw.5')-uridylyl-(3'.fwdarw.5')-uridylyl-(3'.fwdarw.5')-
uridylyl-(3'.fwdarw.5')-uridylyl-(3'.fwdarw.5')- (9CI) (CA INDEX
NAME)

OTHER CA INDEX NAMES:

CN Uridine, uridylyl-(5'.fwdarw.3')-uridylyl-(5'.fwdarw.3')-uridylyl-
(5'.fwdarw.3')-uridylyl-(5'.fwdarw.3')-uridylyl-(5'.fwdarw.3')-5'-O-
[bis(4-methoxyphenyl)phenylmethyl]-

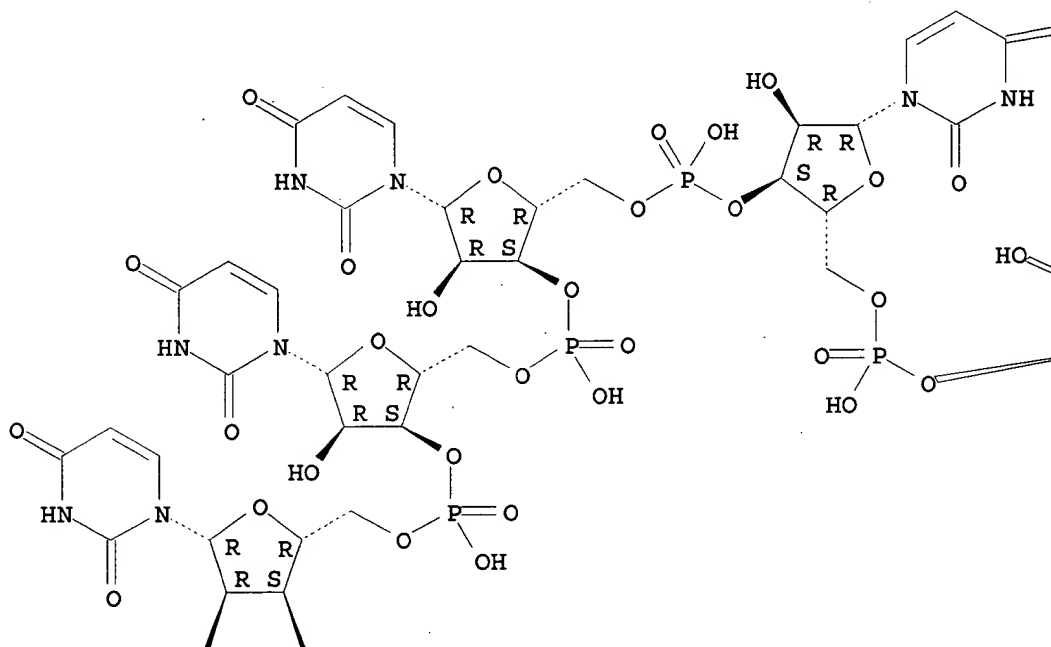
FS STEREOSEARCH

MF C75 H85 N12 O48 P5

LC STN Files: CA, CAPLUS

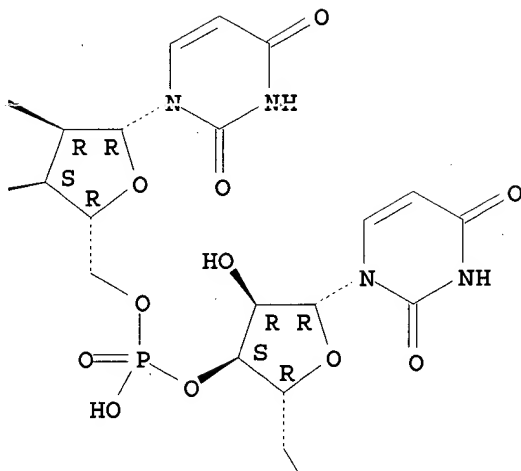
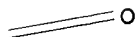
Absolute stereochemistry.

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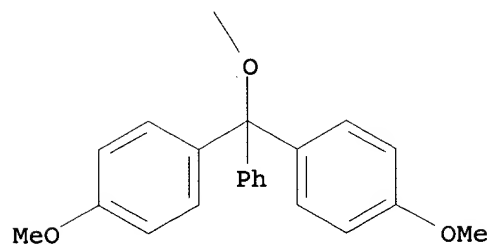
PAGE 1-B



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1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

Searcher : Shears 308-4994

09/076956

REFERENCE 1: 98:161100

L48 ANSWER 210 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 83480-42-6 REGISTRY

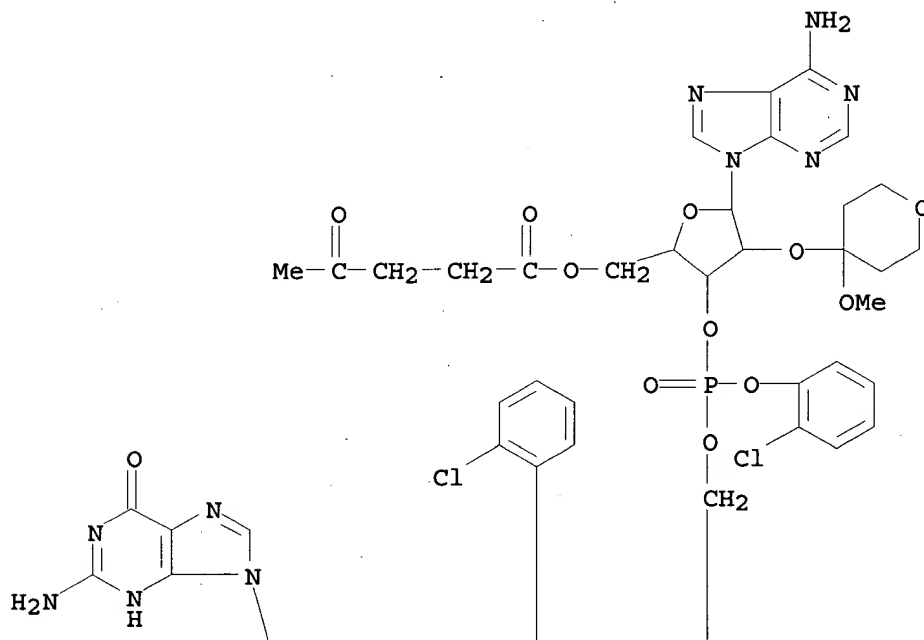
CN 5'-Uridylic acid, P-(2-chlorophenyl)-5'-O-(1,4-dioxopentyl)-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)adenylyl-(3'.fwdarw.5')-P-(2-chlorophenyl)-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)adenylyl-(3'.fwdarw.5')-P-(2-chlorophenyl)-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)guanylyl-(3'.fwdarw.5')-P-(2-chlorophenyl)-N-(4-methoxybenzoyl)-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)adenylyl-(3'.fwdarw.3')-, mono[2-chloro-4-(1,1-dimethylethyl)phenyl] ester, 2'-acetate (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C122 H138 C15 N22 O47 P5

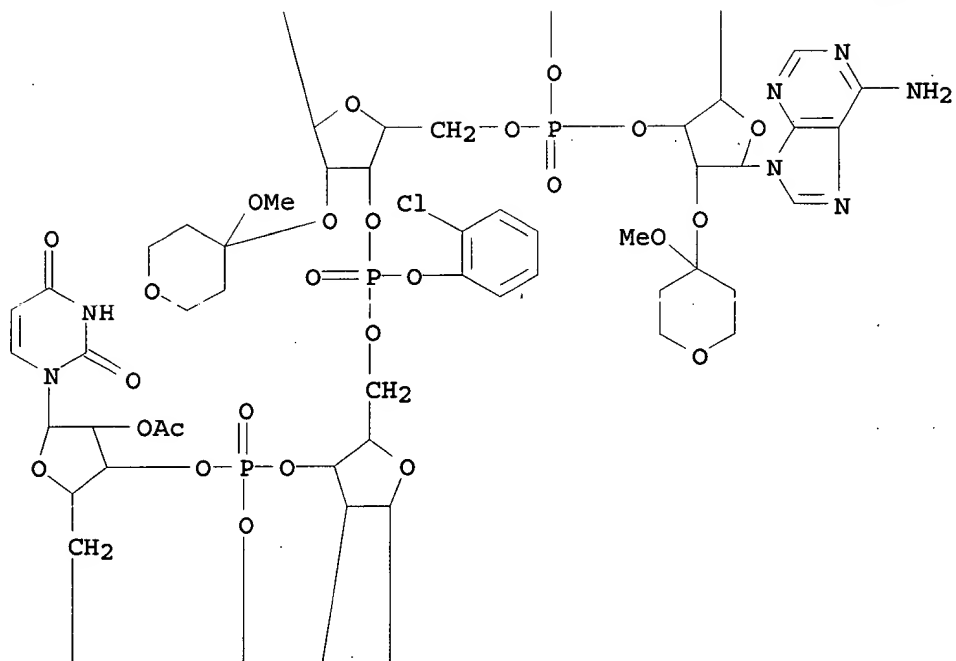
LC STN Files: CA, CAPLUS

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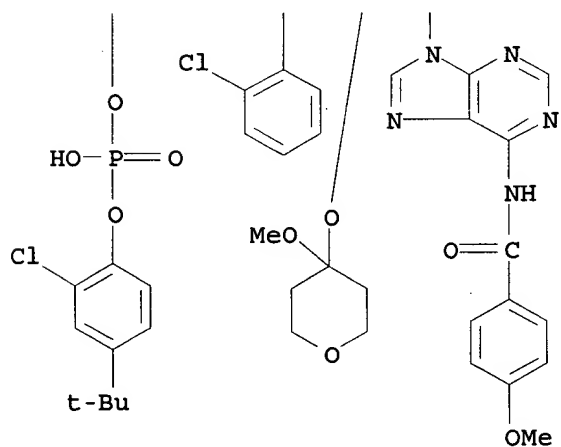


Searcher : Shears 308-4994

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1 REFERENCES IN FILE CA (1967 TO DATE)
 1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
 1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

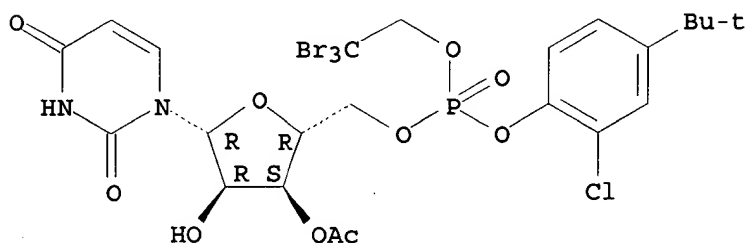
Searcher : Shears 308-4994

09/076956

REFERENCE 1: 97:198508

L48 ANSWER 212 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 83472-80-4 REGISTRY
CN 5'-Uridylic acid, 2-chloro-4-(1,1-dimethylethyl)phenyl
2,2,2-tribromoethyl ester, 3'-acetate (9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C23 H27 Br3 Cl N2 O10 P
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



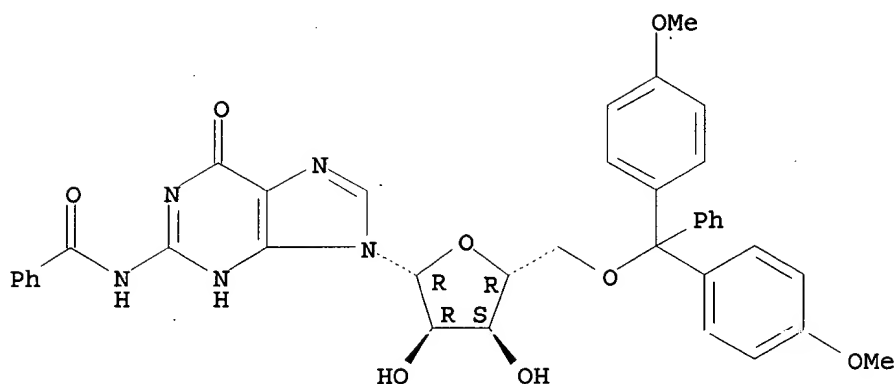
1 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 97:198508

L48 ANSWER 215 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 81352-26-3 REGISTRY
CN Guanosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]- (9CI)
(CA INDEX NAME)
FS STEREOSEARCH
MF C38 H35 N5 O8
LC STN Files: BEILSTEIN*, CA, CAPLUS
(*File contains numerically searchable property data)

Absolute stereochemistry.

09/076956



8 REFERENCES IN FILE CA (1967 TO DATE)
8 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:278520

REFERENCE 2: 114:82409

REFERENCE 3: 110:75961

REFERENCE 4: 99:140300

REFERENCE 5: 98:161100

REFERENCE 6: 97:56176

REFERENCE 7: 96:218165

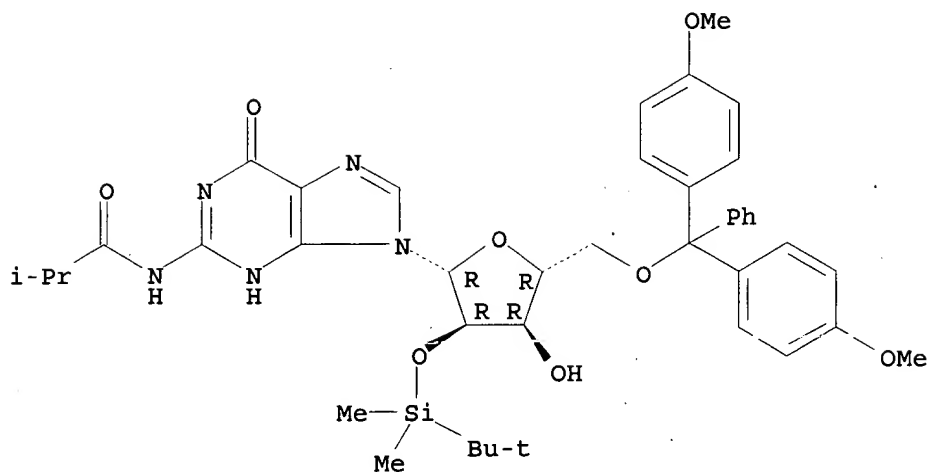
REFERENCE 8: 96:143233

L48 ANSWER 216 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 81279-39-2 REGISTRY
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-[(1,1-dimethylethyl)dimethylsilyl]-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 222725-65-7
MF C41 H51 N5 O8 Si
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT
(*File contains numerically searchable property data)

Absolute stereochemistry.

Searcher : Shears 308-4994

09/076956



11 REFERENCES IN FILE CA (1967 TO DATE)
11 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 132:279431

REFERENCE 2: 132:12481

REFERENCE 3: 130:293236

REFERENCE 4: 125:276401

REFERENCE 5: 122:56372

REFERENCE 6: 120:107589

REFERENCE 7: 114:43472

REFERENCE 8: 111:233459

REFERENCE 9: 110:135635

REFERENCE 10: 107:7503

L48 ANSWER 217 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 81265-93-2 REGISTRY

CN Adenosine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-
[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

FS STEREOSEARCH

MF C44 H49 N5 O7 Si

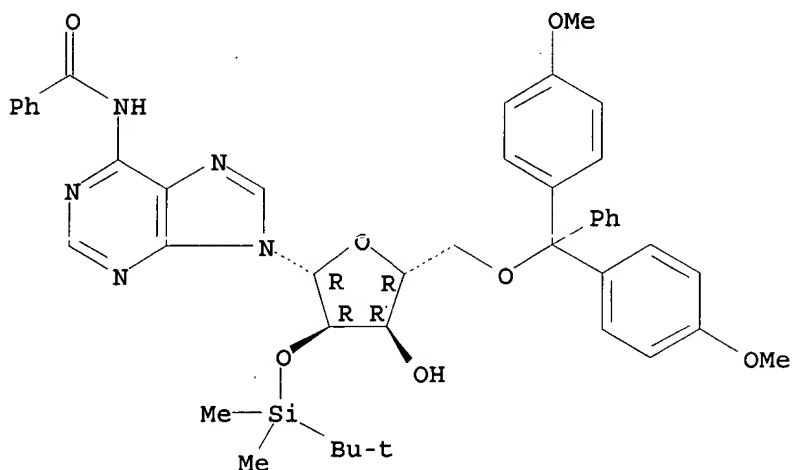
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT

Searcher : Shears 308-4994

09/076956

(*File contains numerically searchable property data)

Absolute stereochemistry.



18 REFERENCES IN FILE CA (1967 TO DATE)

18 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 132:279431

REFERENCE 2: 132:12481

REFERENCE 3: 130:293236

REFERENCE 4: 129:290368

REFERENCE 5: 125:276401

REFERENCE 6: 122:56377

REFERENCE 7: 120:107589

REFERENCE 8: 115:183752

REFERENCE 9: 114:242975

REFERENCE 10: 114:43472

L48 ANSWER 218 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 81256-87-3 REGISTRY

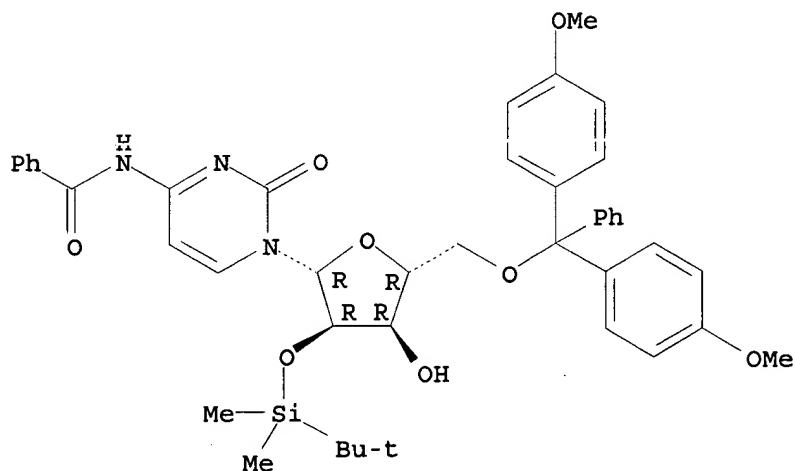
CN Cytidine, N-benzoyl-5'-O-[bis(4-methoxyphenyl)phenylmethyl]-2'-O-
[(1,1-dimethylethyl)dimethylsilyl]- (9CI) (CA INDEX NAME)

Searcher : Shears 308-4994

09/076956

FS STEREOSEARCH
MF C43 H49 N3 O8 Si
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT
(*File contains numerically searchable property data)

Absolute stereochemistry.



22 REFERENCES IN FILE CA (1967 TO DATE)
2 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
22 REFERENCES IN FILE CAPLUS (1967 TO DATE)

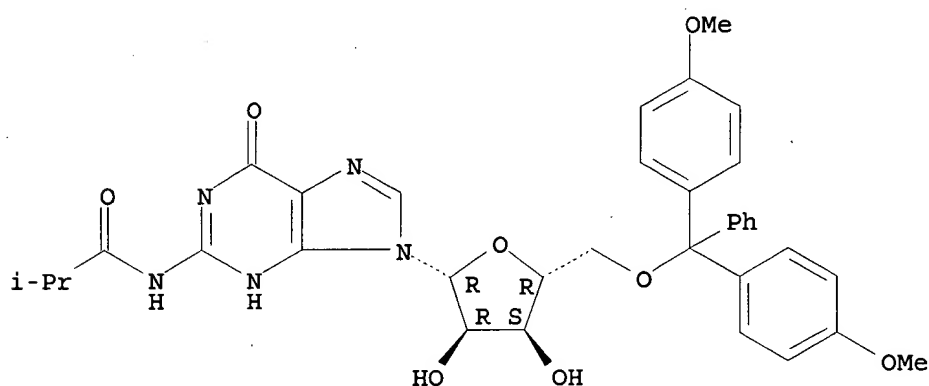
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REFERENCE 2: 132:12481
REFERENCE 3: 125:276401
REFERENCE 4: 122:106339
REFERENCE 5: 122:56377
REFERENCE 6: 120:107589
REFERENCE 7: 119:271605
REFERENCE 8: 119:117719
REFERENCE 9: 115:183752
REFERENCE 10: 114:242975

Searcher : Shears 308-4994

09/076956

L48 ANSWER 219 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 81246-83-5 REGISTRY
CN Guanosine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-N-(2-methyl-1-oxopropyl)- (9CI) (CA INDEX NAME)
FS STEREOSEARCH
DR 200575-32-2
MF C35 H37 N5 O8
CI COM
LC STN Files: BEILSTEIN*, CA, CAPLUS, CASREACT, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



15 REFERENCES IN FILE CA (1967 TO DATE)
1 REFERENCES TO NON-SPECIFIC DERIVATIVES IN FILE CA
15 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 130:338339
REFERENCE 2: 130:168606
REFERENCE 3: 129:260719
REFERENCE 4: 129:122847
REFERENCE 5: 129:4817
REFERENCE 6: 128:72055
REFERENCE 7: 124:30275
REFERENCE 8: 122:56372
REFERENCE 9: 117:171915

Searcher : Shears 308-4994

09/076956

REFERENCE 10: 116:84093

L48 ANSWER 224 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 78462-56-3 REGISTRY

CN Uridine, 5'-O-[bis(4-methoxyphenyl)phenylmethyl]-, 2',3'-dibenzoate
(9CI) (CA INDEX NAME)

OTHER CA INDEX NAMES:

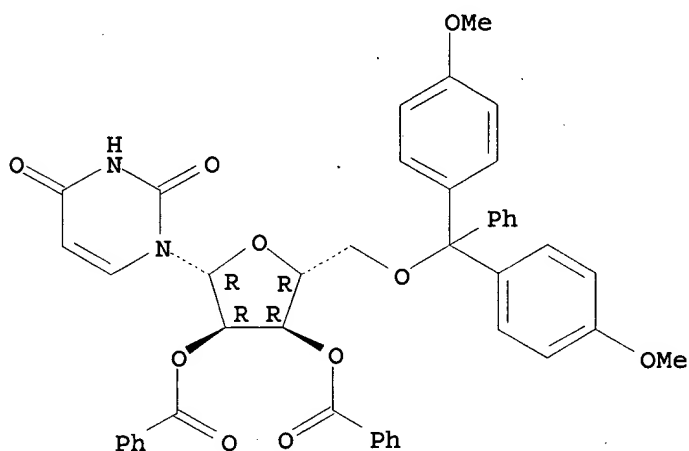
CN Uridine, 5'-O-[.alpha.,.alpha.-bis(p-methoxyphenyl)benzyl]-,
2',3'-dibenzoate (7CI)

FS STEREOSEARCH

MF C44 H38 N2 O10

LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, USPATFULL
(*File contains numerically searchable property data)

Absolute stereochemistry.



9 REFERENCES IN FILE CA (1967 TO DATE)

9 REFERENCES IN FILE CAPLUS (1967 TO DATE)

1 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 128:192872

REFERENCE 2: 124:9343

REFERENCE 3: 123:257264

REFERENCE 4: 115:202623

REFERENCE 5: 114:185898

REFERENCE 6: 113:231900

Searcher : Shears 308-4994

09/076956

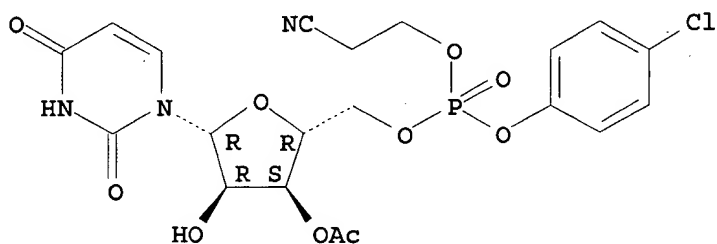
REFERENCE 7: 113:6746

REFERENCE 8: 110:75961

REFERENCE 9: 95:81388

L48 ANSWER 225 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 76726-28-8 REGISTRY
CN 5'-Uridylic acid, 4-chlorophenyl 2-cyanoethyl ester, 3'-acetate
(9CI) (CA INDEX NAME)
FS STEREOSEARCH
MF C20 H21 Cl N3 O10 P
LC STN Files: CA, CAPLUS

Absolute stereochemistry.



1 REFERENCES IN FILE CA (1967 TO DATE)

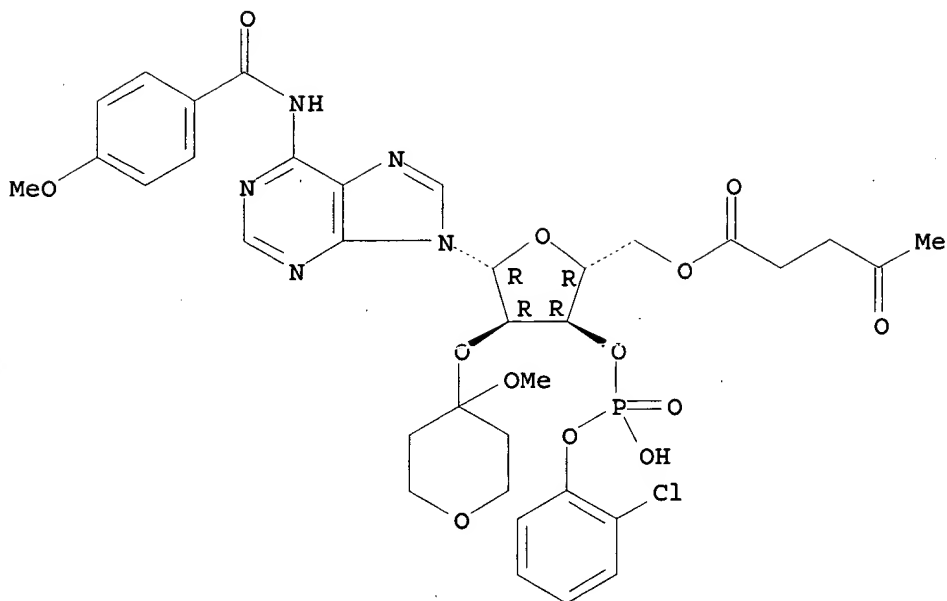
1 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 94:121840

L48 ANSWER 228 OF 232 REGISTRY COPYRIGHT 2001 ACS
RN 69895-37-0 REGISTRY
CN 3'-Adenylic acid, N-(4-methoxybenzoyl)-2'-O-(tetrahydro-4-methoxy-2H-pyran-4-yl)-, mono(2-chlorophenyl) ester, 5'-(4-oxopentanoate) (9CI)
(CA INDEX NAME)
FS STEREOSEARCH
MF C35 H39 Cl N5 O13 P
LC STN Files: CA, CAPLUS

Absolute stereochemistry.

09/076956



4 REFERENCES IN FILE CA (1967 TO DATE)
4 REFERENCES IN FILE CAPLUS (1967 TO DATE)

REFERENCE 1: 97:198508

REFERENCE 2: 96:123207

REFERENCE 3: 96:52609

REFERENCE 4: 90:168877

L48 ANSWER 232 OF 232 REGISTRY COPYRIGHT 2001 ACS

RN 50408-20-3 REGISTRY

CN Uridine, 2',3'-dibenzoate (7CI, 9CI) (CA INDEX NAME)

OTHER NAMES:

CN 2',3'-Di-O-benzoyluridine

FS STEREOSEARCH

DR 51296-13-0

MF C23 H20 N2 O8

LC STN Files: BEILSTEIN*, CA, CAOLD, CAPLUS, CASREACT, CHEMCATS,
CHEMINFORMRX, CHEMLIST, CSCHEM

(*File contains numerically searchable property data)

Other Sources: EINECS**

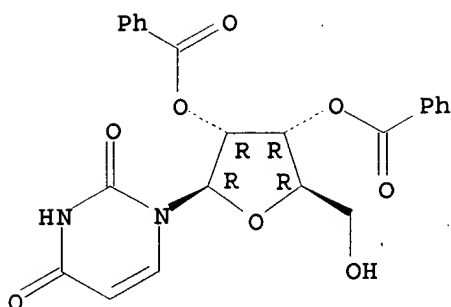
(**Enter CHEMLIST File for up-to-date regulatory information)

Absolute stereochemistry.

Searcher : Shears 308-4994

09/076956

445



50 REFERENCES IN FILE CA (1967 TO DATE)
50 REFERENCES IN FILE CAPLUS (1967 TO DATE)
2 REFERENCES IN FILE CAOLD (PRIOR TO 1967)

REFERENCE 1: 131:170545
REFERENCE 2: 131:88118
REFERENCE 3: 129:122829
REFERENCE 4: 127:346602
REFERENCE 5: 126:8480
REFERENCE 6: 125:108579
REFERENCE 7: 117:171917
REFERENCE 8: 115:280465
REFERENCE 9: 115:114978
REFERENCE 10: 115:114975

FILE 'CAOLD' ENTERED AT 15:31:04 ON 31 JUL 2001
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FILE COVERS 1907-1966
FILE LAST UPDATED: 01 May 1997 (19970501/UP)

This file contains CAS Registry Numbers for easy and accurate

Searcher : Shears 308-4994

substance identification. Title keywords, authors, patent assignees, and patent information, e.g., patent numbers, are now searchable from 1907-1966. TIFF images of CA abstracts printed between 1907-1966 are available in the PAGE display formats.

This file supports REGISTRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> s l48

L49 3 L48

L49 ANSWER 1 OF 3 CAOLD COPYRIGHT 2001 ACS

AN CA61:16141h CAOLD

TI polynucleotides - (XXXIV) specific synthesis of C3'-C5'-linked ribooligonucleotides-protected derivs. of ribonucleosides and ribonucleoside 3'-phosphates-syntheses of diribonucleoside phosphates

AU Lohrmann, Rolf; Khorana, H. G.

IT 39113-96-7 42167-65-7 50408-20-3 54898-05-4 55378-65-9
55798-09-9 65360-02-3 69729-21-1 100658-96-6 102048-84-0
105232-92-6 105311-97-5 107329-18-0

L49 ANSWER 2 OF 3 CAOLD COPYRIGHT 2001 ACS

AN CA57:13860g CAOLD

TI polynucleotides - (XVI) specific synthesis of the C3'-C5' interribonucleotidic linkage-examn. of routes involving protected ribonucleosides and ribonucleoside 3'-phosphatases-synthesis of uridylyl-(3' .fwdarw. 5')-adenosine, uridylyl-(3' .fwdarw. 5')-cytidine, adenylyl-(3' .fwdarw. 5')-adenosine and related compds.

AU Rammler, David H.; Khorana, H. G.

IT 2382-66-3 2391-46-0 2415-43-2 3013-97-6 3256-24-4
4399-22-8 6554-15-0 6554-16-1 6554-17-2 13089-48-0
22886-36-8 23197-78-6 23624-64-8 34198-34-0 41092-41-5
50408-20-3 54898-05-4 78462-56-3
81246-76-6 85315-91-9 95371-74-7 95371-75-8
101014-60-2 101502-45-8 101796-32-1 105862-13-3 106169-64-6
106628-08-4 107526-15-8

L49 ANSWER 3 OF 3 CAOLD COPYRIGHT 2001 ACS

AN CA56:15800d CAOLD

TI polynucleotides - (XIV) specific synthesis of the C3'-C5' internucleotide linkage-syntheses of uridylyl-(3'.fwdarw.5')-uridine and uridylyl-(3'.fwdarw.5')-adenosine

AU Smith, Michael; Rammler, D. H.; Goldberg, I. H.; Khorana, H. G.

09/076956

IT 2415-43-2 3256-24-4 4719-57-7 6403-16-3 25874-00-4
39113-96-7 51296-30-1 51296-31-2 51600-12-5 53166-52-2
81246-79-9 98090-28-9 99036-64-3 99036-65-4 103133-28-4
104948-44-9 105341-69-3 105862-12-2 105975-46-0 106096-22-4
106844-71-7 107542-47-2

~~FILE~~ ~~USPATFULL~~ ENTERED AT 15:31:42 ON 31 JUL 2001

L50 16 S L48

L50 ANSWER 1 OF 16 USPATFULL

ACCESSION NUMBER: 2001:71297 USPATFULL
TITLE: AC methods for the detection of nucleic acids
INVENTOR(S): Kayyem, Jon Faiz, Pasadena, CA, United States
O'Connor, Stephen D., Pasadena, CA, United States
PATENT ASSIGNEE(S): Clinical Micro Sensors, Inc., Pasadena, CA,
United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6232062	B1	20010515
APPLICATION INFO.:	US 1997-911589		19970814 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1997-873597, filed on 12 Jun 1997		

	NUMBER	DATE
PRIORITY INFORMATION:	US 1997-40155	19970307 (60)
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Whisenant, Ethan	
LEGAL REPRESENTATIVE:	Flehr Hohbach Test Albritton & Herbert LLP, Trecartin, Richard F., Silva, Robin M.	
NUMBER OF CLAIMS:	30	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	56 Drawing Figure(s); 39 Drawing Page(s)	
LINE COUNT:	4220	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to nucleic acids covalently coupled to electrodes via conductive oligomers. More particularly, the invention is directed to the site-selective modification of nucleic acids with electron transfer moieties and electrodes to produce a new class of biomaterials, and to methods of making and using them.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 2 OF 16 USPATFULL

ACCESSION NUMBER: 2001:59606 USPATFULL

Searcher : Shears 308-4994

09/076956

TITLE: Methods of detecting nucleic acids using electrodes
INVENTOR(S): Kayyem, Jon Faiz, Pasadena, CA, United States
O'Connor, Stephen D., Pasadena, CA, United States
Gozin, Michael, Pasadena, CA, United States
Yu, Changjun, Pasadena, CA, United States
Meade, Thomas J., Altadena, CA, United States
PATENT ASSIGNEE(S): Clinical Micro Sensors, Inc., Pasadena, CA,
United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6221583	B1	20010424
APPLICATION INFO.:	US 1997-899510		19970724 (8)
RELATED APPLN. INFO.:	Division of Ser. No. US 1996-743798, filed on 5 Nov 1996		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Marschel, Ardin H.		
LEGAL REPRESENTATIVE:	Flehr Hohbach Test Albritton & Herbert LLP, Silva, Esq., Robin M., Trecartin, Esq., Richard F.		
NUMBER OF CLAIMS:	22		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	8 Drawing Figure(s); 8 Drawing Page(s)		
LINE COUNT:	3090		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to nucleic acids covalently coupled to electrodes via conductive oligomers. More particularly, the invention is directed to the site-selective modification of nucleic acids with electron transfer moieties and electrodes to produce a new class of biomaterials, and to methods of making and using them.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 3 OF 16 USPATFULL

ACCESSION NUMBER: 2000:97959 USPATFULL
TITLE: Electrodes linked via conductive oligomers to nucleic acids
INVENTOR(S): Kayyem, Jon F., Pasadena, CA, United States
O'Connor, Stephen D., Pasadena, CA, United States
Gozin, Michael, Pasadena, CA, United States
Yu, Changjun, Pasadena, CA, United States
Meade, Thomas J., Altadena, CA, United States
PATENT ASSIGNEE(S): Clinical Micro Sensors, Pasadena, CA, United States (U.S. corporation)

Searcher : Shears 308-4994

09/076956

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6096273		20000801
APPLICATION INFO.:	US 1996-743798		19961105 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Marschel, Ardin H.		
LEGAL REPRESENTATIVE:	Flehr Hohbach Test Albritton & Herbert LLP, Trecartin, Richard F., Silva, Robin M.		
NUMBER OF CLAIMS:	36		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	7 Drawing Figure(s); 8 Drawing Page(s)		
LINE COUNT:	3182		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to nucleic acids covalently coupled to electrodes via conductive oligomers. More particularly, the invention is directed to the site-selective modification of nucleic acids with electron transfer moieties and electrodes to produce a new class of biomaterials, and to methods of making and using them.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 4 OF 16 USPATFULL

ACCESSION NUMBER: 2000:92088 USPATFULL
TITLE: Methods of attaching conductive oligomers to electrodes
INVENTOR(S): Kayyem, Jon Faiz, Pasadena, CA, United States
O'Connor, Stephen D., Pasadena, CA, United States
Gozin, Michael, Beer Sheva, Israel
Yu, Changjun, Pasadena, CA, United States
Meade, Thomas J., Altadena, CA, United States
PATENT ASSIGNEE(S): Clinical Micro Sensors, Inc., Pasadena, CA,
United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 6090933		20000718
APPLICATION INFO.:	US 1997-911085		19970814 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1997-873978, filed on 12 Jun 1997 which is a continuation of Ser. No. US 1996-743798, filed on 5 Nov 1996		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Marschel, Ardin H.		
LEGAL REPRESENTATIVE:	Trecartin, Esq., Richard F., Silva, Esq., Robin M.Flehr Hohbach Test Albritton & Herbert LLP		
NUMBER OF CLAIMS:	11		

Searcher : Shears 308-4994

09/076956

EXEMPLARY CLAIM: 1
NUMBER OF DRAWINGS: 44 Drawing Figure(s); 39 Drawing Page(s)
LINE COUNT: 4152

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention relates to nucleic acids covalently coupled to electrodes via conductive oligomers. More particularly, the invention is directed to the site-selective modification of nucleic acids with electron transfer moieties and electrodes to produce a new class of biomaterials, and to methods of making and using them.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 5 OF 16 USPATFULL

ACCESSION NUMBER: 1999:160220 USPATFULL
TITLE: Polynucleotide purification method
INVENTOR(S): Fearon, Karen L., Lafayette, CA, United States
Boyd, Victoria Lee, San Carlos, CA, United States
PATENT ASSIGNEE(S): The Perkin-Elmer Corporation, Foster, CA, United States (U.S. corporation)
Lynx Therapeutics, Inc., Hayward, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5998604		19991207
APPLICATION INFO.:	US 1997-929620		19970915 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Crane, L. Eric		
LEGAL REPRESENTATIVE:	Gorthey, LeeAnnDehlinger & Associates		
NUMBER OF CLAIMS:	20		
EXEMPLARY CLAIM:	1		
NUMBER OF DRAWINGS:	11 Drawing Figure(s); 7 Drawing Page(s)		
LINE COUNT:	853		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method of purifying a hydrophobically substituted polynucleotide by reverse phase HPLC is described. The hydrophobic substituent may be removed from the polynucleotide under non-acidic conditions; the purification method is thus especially useful for acid sensitive polynucleotide analogs.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 6 OF 16 USPATFULL

ACCESSION NUMBER: 1999:146783 USPATFULL
TITLE: Ribonucleoside-derivative and method for preparing the same

Searcher : Shears 308-4994

09/076956

INVENTOR(S): Pitsch, Stefan, Regensorferstrasse 45, 8049
Zurich, Switzerland
Weiss, Patrick A., Luegislandstrasse 241, 8051
Zurich, Switzerland
Jenny, Luzi, Rotwandstrasse 65, 8004 Zurich,
Switzerland

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5986084		19991116
APPLICATION INFO.:	US 1997-965780		19971107 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	CH 1997-1931	19970818
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Crane, L. Eric	
LEGAL REPRESENTATIVE:	Kubovcik & Kubovcik	
NUMBER OF CLAIMS:	14	
EXEMPLARY CLAIM:	1,12	
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)	
LINE COUNT:	583	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The ribonucleoside-derivatives serve for the synthesis of ribonucleic acids and comprise a triple substituted silyloxymethyl-group as a protection-group on the oxygen atom in 2'-position. The ribonucleoside-derivatives may be suitably protected on the nucleo-base and on the oxygen in 5'-position also. The new protection-groups in 2'-O-position are superior to conventional such protection-groups as they are not subject to isomerization and give higher coupling yields. The general formula of the ribonucleoside-derivative is: ##STR1## whereby R.sup.1 is a base of the purine- or pyrimidine-family or a derivative of such a base,

R.sup.2 is a proton or a substituted derivative of phosphonic acid,

R.sup.3 is a proton or a suitable protection-group,

R.sup.4, R.sup.5, R.sup.6 are advantageously three identical or different alkyl- or aryl-substituents which together comprise between 6 and 30 carbon atoms.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 7 OF 16 USPATFULL

Searcher : Shears 308-4994

09/076956

ACCESSION NUMBER: 1999:19354 USPATFULL
TITLE: Universal solid supports and methods for their use
INVENTOR(S): Reddy, M. Parameswara, Brea, CA, United States
Michael, Maged A., Placentia, CA, United States
Farooqui, Firdous, Brea, CA, United States
PATENT ASSIGNEE(S): Beckman Instruments, Inc., Fullerton, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5869696		19990209
APPLICATION INFO.:	US 1996-636113		19960422 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Raymond, Richard L.		
LEGAL REPRESENTATIVE:	May, William H., Harder, P. R. Fulbright & Jaworski		
NUMBER OF CLAIMS:	10		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1615		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Universal solid support oligonucleotide synthesis reagents, oligonucleotide synthesis processes, and reagents for cleaving oligonucleotides from solid supports are disclosed. Oligonucleotide synthesis reagents have the following general formula:

SS--R.sup.6 --O--R.sup.3

I

wherein SS is a solid support; R.sup.6 is ##STR1## where R.sup.5 is hydrogen or alkyl and R.sup.4 is a phosphate protecting group; and R.sup.3 is a ring moiety having vicinal groups --XR.sup.1 and --YR.sup.2 wherein each of X and Y is independently selected from the group consisting of O, S and NH and one of R.sup.1 and R.sup.2 is a blocking moiety and the other is hydrogen or a hydroxy protecting group. Oligonucleotide cleaving reagents include methylamine and/or ammonium hydroxide and trimethylamine.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 8 OF 16 USPATFULL

ACCESSION NUMBER: 1998:95618 USPATFULL
TITLE: 2' Modified Oligonucleotides
INVENTOR(S): Buhr, Chris A., Daly City, CA, United States
Matteucci, Mark, Burlingame, CA, United States
PATENT ASSIGNEE(S): Gilead Sciences, Inc., Foster City, CA, United States (U.S. corporation)

Searcher : Shears 308-4994

09/076956

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5792847		19980811
APPLICATION INFO.:	US 1995-467422		19950606 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1994-240508, filed on 10 May 1994, now patented, Pat. No. US 5466786 which is a continuation of Ser. No. US 1989-425857, filed on 24 Oct 1989		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Wilson, James O.		
LEGAL REPRESENTATIVE:	Muenchau, Daryl D.		
NUMBER OF CLAIMS:	35		
EXEMPLARY CLAIM:	1		
LINE COUNT:	1055		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			
AB	Oligomers which have substituents on the 2' position are resistant to oligonucleases and furthermore can be derivatized to deliver reagents or drugs, to carry label, or to provide other properties.		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 9 OF 16 USPATFULL

ACCESSION NUMBER:	1998:58126	USPATFULL
TITLE:	Method of making 2'-O-alkyl pyrimidine ribonucleosides	
INVENTOR(S):	Hodge, Richard P., Dracut, MA, United States Sinha, Nanda D., Acton, MA, United States	
PATENT ASSIGNEE(S):	PerSeptive Biosystems, Inc., Framingham, MA, United States (U.S. corporation)	

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5756707		19980526
APPLICATION INFO.:	US 1994-355544		19941213 (8)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Kight, John		
ASSISTANT EXAMINER:	Crane, L. Eric		
LEGAL REPRESENTATIVE:	Testa, Hurwitz & Thibeault, LLP		
NUMBER OF CLAIMS:	20		
EXEMPLARY CLAIM:	1,5,7		
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	1179		
CAS INDEXING IS AVAILABLE FOR THIS PATENT.			
AB	Method for production of 2'-O-derivatized uridine and cytosine RNA synthons comprising derivatizing the 2'-hydroxyl group of a		

Searcher : Shears 308-4994

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partially protected cytosine ribonucleoside to preferentially produce a partially protected 2'-O-derivatized nucleoside, which is then either (1) reacted at the 3'-hydroxyl group to produce a 2'-O-derivatized cytosine RNA synthon, or (2) reacted with a hydroxide source to produce a uridine nucleobase by deamination, thereby producing a partially protected 2'-O-derivatized uridine ribonucleoside which can be reacted at its 3'-hydroxyl group to produce a uridine RNA synthon.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 10 OF 16 USPATFULL

ACCESSION NUMBER: 1998:45326 USPATFULL
TITLE: Propargyl modified nucleosides and nucleotides
INVENTOR(S): Srivastava, Suresh C., Burlington, MA, United States
Raza, Syed Kazim, Waltham, MA, United States
PATENT ASSIGNEE(S): ChemGenes Corporation, Waltham, MA, United States
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5744595		19980428
APPLICATION INFO.:	US 1995-520968		19950725 (8)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1993-176481, filed on 30 Dec 1993, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Kight, Joe		
ASSISTANT EXAMINER:	Crane, L. Eric		
LEGAL REPRESENTATIVE:	Hale and Dorr LLP		
NUMBER OF CLAIMS:	8		
EXEMPLARY CLAIM:	1, 3, 5, 7		
NUMBER OF DRAWINGS:	9 Drawing Figure(s); 3 Drawing Page(s)		
LINE COUNT:	804		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention describes a novel 2'-O-alkylation reaction to produce a novel series of nucleosides carrying the 2'-O-propargyl group, using propargyl bromide, dibutyl tin oxide and tetrabutyl ammonium bromide. The procedure involves novel techniques for regioselective introduction of 2'-/3'-O-propargyl group directly on the 5'-DMT-N-protected- nucleosides using dibutyl tin oxide as a mild base in conjunction with a phase transfer catalyst, tetrabutyl ammonium bromide. The reaction process has many significant features and leads to isomeric ratios in favor of the 2'-regio isomer. This allows the synthesis of the corresponding phosphoramidites of high purity.

Searcher : Shears 308-4994

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CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 11 OF 16 USPATFULL

ACCESSION NUMBER: 95:101319 USPATFULL
TITLE: 2'modified nucleoside and nucleotide compounds
INVENTOR(S): Buhr, Chris A., Daly City, CA, United States
Matteucci, Mark, Burlingame, CA, United States
PATENT ASSIGNEE(S): Gilead Sciences, Foster City, CA, United States
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5466786		19951114
APPLICATION INFO.:	US 1994-240508		19940510 (8)
RELATED APPLN. INFO.:	Continuation of Ser. No. US 1989-425857, filed on 24 Oct 1989, now abandoned		
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Robinson, Douglas W.		
ASSISTANT EXAMINER:	Wilson, James O.		
LEGAL REPRESENTATIVE:	Morrison & Foerster		
NUMBER OF CLAIMS:	8		
EXEMPLARY CLAIM:	1		
LINE COUNT:	872		
AB	Oligomers which have substituents on the 2' position are resistant to oligonucleases and furthermore can be derivatized to deliver reagents or drugs, to carry label, or to provide other properties.		

L50 ANSWER 12 OF 16 USPATFULL

ACCESSION NUMBER: 95:60471 USPATFULL
TITLE: Oligonucleotides having selectably cleavable
and/or abasic sites
INVENTOR(S): Urdea, Michael S., Alamo, CA, United States
Horn, Thomas, Berkeley, CA, United States
PATENT ASSIGNEE(S): Chiron Corporation, Emeryville, CA, United States
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5430136		19950704
APPLICATION INFO.:	US 1990-559961		19900727 (7)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1989-398711, filed on 25 Aug 1989, now patented, Pat. No. US 5258506, issued on 2 Jun 1992 which is a continuation-in-part of Ser. No. US 1988-251152, filed on 29 Sep 1988, now patented, Pat. No. US 5118605 which is a continuation-in-part of Ser.		

Searcher : Shears 308-4994

09/076956

No. US 1984-661508, filed on 14 Oct 1984, now
patented, Pat. No. US 4775619, issued on 4 Oct
1988

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Robinson, Douglas W.
ASSISTANT EXAMINER: Kunz, Gary L.
LEGAL REPRESENTATIVE: Goldman, Kenneth M. Reed & Robins, Blackburn,
Robert P.
NUMBER OF CLAIMS: 8
EXEMPLARY CLAIM: 1
LINE COUNT: 763

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Polynucleotides containing abasic, cleavable sites are provided.
These polynucleotides are useful in a variety of biochemical and
chemical contexts, particularly in solid phase nucleic acid
hybridization assays because a captured probe can be released from
the support. The polynucleotides have the structure ##STR1## where
R is selected from the group consisting of 2-nitrobenzyl,
4-penten-1-yl, ##STR2## where R', R.sub.i and R.sub.j are as
defined herein. One of the preferred embodiments is a
polynucleotide where R is ##STR3##

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 13 OF 16 USPATFULL

ACCESSION NUMBER: 94:102329 USPATFULL
TITLE: Oligonucleotides with selectably cleavable and/or
abasic sites
INVENTOR(S): Urdea, Michael S., Alamo, CA, United States
Horn, Thomas, Berkeley, CA, United States
PATENT ASSIGNEE(S): Chiron Corporation, Emeryville, CA, United States
(U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5367066		19941122
APPLICATION INFO.:	US 1991-736445		19910724 (7)
RELATED APPLN. INFO.:	Continuation-in-part of Ser. No. US 1990-559961, filed on 27 Jul 1990 which is a continuation-in-part of Ser. No. US 1989-398711, filed on 25 Aug 1989, now abandoned which is a continuation-in-part of Ser. No. US 1988-251152, filed on 29 Sep 1988, now patented, Pat. No. US 5118605, issued on 2 Jun 1992 which is a continuation-in-part of Ser. No. US 1984-661508, filed on 16 Oct 1984, now patented, Pat. No. US 4775619, issued on 4 Oct 1988		

Searcher : Shears 308-4994

09/076956

DOCUMENT TYPE: Utility
FILE SEGMENT: Granted
PRIMARY EXAMINER: Brown, Johnnie R.
ASSISTANT EXAMINER: Kunz, Gary L.
LEGAL REPRESENTATIVE: Reed & Robins
NUMBER OF CLAIMS: 23
EXEMPLARY CLAIM: 1
LINE COUNT: 960

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A modified polynucleotide containing at least one cleavable or abasic site as shown below. ##STR1## DNA.sub.1 is a first segment of DNA; DNA.sub.2 is a second segment of DNA; and R.sub.m is C.sub.1 to C.sub.16 alkylene or an oxytheylene oligomer --(CH.sub.2 CH.sub.2 O).sub.z -- where z is an interger in the range of 1 to 16 inclusive, and R.sub.n is selected from the group consisting of ##STR2## Such polynucleotides are useful in solid phase hybridizations because they permit the release of a label from the solid support after the hybridization reaction.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 14 OF 16 USPATFULL

ACCESSION NUMBER: 94:7794 USPATFULL
TITLE: Process and compounds for RNA synthesis
INVENTOR(S): Vinayak, Ravi S., Foster City, CA, United States
PATENT ASSIGNEE(S): Applied Biosystems, Inc., Foster City, CA, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5281701		19940125
APPLICATION INFO.:	US 1991-729492		19910712 (7)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Brown, Johnnie R.		
ASSISTANT EXAMINER:	Crane, L. Eric		
LEGAL REPRESENTATIVE:	Macevicz, Stephen C.		
NUMBER OF CLAIMS:	12		
EXEMPLARY CLAIM:	1,9		
NUMBER OF DRAWINGS:	4 Drawing Figure(s); 2 Drawing Page(s)		
LINE COUNT:	469		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB A method and compositions are provided for synthesizing polynucleotides wherein the exocyclic amino groups of 5'-O-protected-2'-O-alkylsilyl-adenosine phosphoramidite and 5'-O-protected-2'-O-alkylsilylguanosine phosphoramidite monomers are protected with dialkylformamidine. In a preferred embodiment, the ribonucleoside phosphoramidite monomers are activated with

Searcher : Shears 308-4994

ethylthiotetrazole.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 15 OF 16 USPATFULL

ACCESSION NUMBER: 92:61999 USPATFULL

TITLE: Nucleoside-3'-phosphites for synthesis of oligonucleotides

INVENTOR(S): Takaku, Hiroshi, Funabashi, Japan

PATENT ASSIGNEE(S): Central Glass Company, Limited, Ube, Japan
(non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5134228		19920728
APPLICATION INFO.:	US 1989-412990		19890926 (7)

	NUMBER	DATE
PRIORITY INFORMATION:	JP 1988-244748	19880929
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Rollins, John W.	
ASSISTANT EXAMINER:	Kunz, Gary L.	
LEGAL REPRESENTATIVE:	Fleit, Jacobson, Cohn, Price, Holman & Stern	
NUMBER OF CLAIMS:	6	
EXEMPLARY CLAIM:	1	
LINE COUNT:	288	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The invention provides novel phosphites represented by the general formula (I) and nucleoside-3'-phosphite derivatives represented by the general formula (III).

(RO).sub.3 P

(I)

wherein R is, for example, a fluoroalkyl group or a substituted phenyl group. ##STR1## wherein R is the same as in (I), R" is a protecting group such as dimethoxytrityl group, and B represents a base, e.g. thymine.

A phosphite (I) is prepared by reacting an alcohol ROH with PCl.sub.3 in the presence of a tertiary amine, and a nucleoside-3'-phosphite (III) is prepared by reacting a phosphite (I) with a nucleoside in a solvent in the presence of a tertiary amine. Phosphites (I) are very stable. Using a nucleoside-3'-phosphite (III) an oligonucleotide can be synthesized on a solid support by a simplified process.

09/076956

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L50 ANSWER 16 OF 16 USPATFULL

ACCESSION NUMBER: 90:73578 USPATFULL
TITLE: Cholesteryl modified oligonucleotides
INVENTOR(S): Letsinger, Robert L., Wilmette, IL, United States
PATENT ASSIGNEE(S): Northwestern University, Evanston, IL, United States (U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 4958013		19900918
APPLICATION INFO.:	US 1989-362200		19890606 (7)
DOCUMENT TYPE:	Utility		
FILE SEGMENT:	Granted		
PRIMARY EXAMINER:	Rollins, John W.		
ASSISTANT EXAMINER:	Wilson, James O.		
LEGAL REPRESENTATIVE:	Tilton, Fallon, Lungmus & Chestnut		
NUMBER OF CLAIMS:	3		
EXEMPLARY CLAIM:	1		
LINE COUNT:	580		

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB Oligonucleotides modified at their backbones by the attachment of cholesteryl are described. The modified oligonucleotides anchor in the cell membrane to serve as a probe and to provide therapeutic activity.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

(FILE 'CAPLUS, WPIDS, USPATFULL, JICST-EPLUS, JAPIO' ENTERED AT 15:33:15 ON 31 JUL 2001)

L51 352 S BARANOVA L?/AU
L52 36 S CHATELAIN F?/AU
L53 94 S KUMAREV V?/AU
L54 2 S L51 AND L52 AND L53
L55 27 S L51 AND (L52 OR L53)
L56 5 S L52 AND L53
L57 450 S L51 OR L52 OR L53
L58 47 S L57 AND L40
L59 5 S L58 AND SOLID SUPPORT
L60 31 S L54 OR L55 OR L56 OR L59
L61 26 DUP REM L60 (5 DUPLICATES REMOVED)

- Author(s)

L61 ANSWER 1 OF 26 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD

ACCESSION NUMBER: 2001-290733 [30] WPIDS
DOC. NO. CPI: C2001-089141
TITLE: Apparatus and method for performing a large number of chemical and biological reactions by bringing

Searcher : Shears 308-4994

09/076956

two arrays into close apposition and allowing reactants on the surfaces of the two arrays to come into contact .

DERWENT CLASS: B04 D16
INVENTOR(S): BERNINGER, M; BRENNAN, T M; CHATELAIN, F
PATENT ASSIGNEE(S): (PROT-N) PROTOGENE LAB INC
COUNTRY COUNT: 94
PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG

WO 2001027327	A2	20010419	(200130)*	EN	91
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC					
MW MZ NL OA PT SD SE SL SZ TZ UG ZW					
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE					
DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG					
KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ					
PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN					
YU ZA ZW					

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE

WO 2001027327	A2	WO 2000-US27872	20001006

PRIORITY APPLN. INFO: US 1999-158315 19991008

AN 2001-290733 [30] WPIDS

AB WO 200127327 A UPAB: 20010603

NOVELTY - A novel system for performing reactions, comprises bringing two supports into close apposition to allow the reactants immobilized on the supports to come into close contact.

DETAILED DESCRIPTION - A system for performing reactions, comprises a first **solid support** with a reactant of each reaction immobilized on to it, and a second **solid support** either providing a second reactant confined to a specific area on the surface, or a chemical/mechanical separation of the reactions, where the first and second **solid supports** are assembled to provide an environment for performing the reactions in parallel.

INDEPENDENT CLAIMS are also included for the following:

(1) a **solid support** for performing polynucleotide amplification reactions where a releasable primer for each amplification reaction is immobilized on the surface of the **solid support**;

(2) a system for amplifying target nucleic acids, comprising:

(a) a first **solid support** where the surface

of the support comprises a number of derivatized areas, a forward primer/primer for each target nucleic acid a sequence complementary to the forward primer/primer is immobilized on a derivatized area of the support, and a reverse primer/probe for each region of the target nucleic acid or a sequence complementary to the reverse primer or a subsequence of each target nucleic acid, is immobilized on an other derivatized area; and

(b) a second **solid support** comprises a number of reaction wells on its surface, each well corresponding to the forward and reverse primers/primer and the probe for each target nucleic acid;

(3) a method (M1) for performing a large number of reactions using the **solid support** system;

(4) a method (M2) of performing polynucleotide amplification reactions and capturing the amplification products, comprising:

(a) obtaining a first and second **solid support** where the immobilized groups (containing a releasable site and a primer) are confined to specific areas of the first support and the reactants of the polynucleotide amplification reactions are confined to specific areas on the second **solid support**;

(b) assembling the first and second supports, so that the reactants on the second support are in contact with the immobilized groups on the first support;

(c) releasing the primers;

(d) generating amplification **products** of the **polynucleotide** amplification reactions; and

(e) capturing the amplified **products** by immobilized **polynucleotide** probes on either the first or second **solid support** through hybridization;

(5) a method (M3) for detecting **polynucleotide** sequence variations, quantitating amplified **products**, and detecting **polynucleotide** sequence variations by a polynucleotide modifying enzyme, comprises following the 5 steps of (M2), but with an additional sixth step, either:

(a) detecting polynucleotide sequence variations using hybridization complexes;

(b) quantitating amplified products; or

(c) detecting polynucleotide sequence variations by a polynucleotide modifying enzyme; and

(6) a method (M4) for amplifying a target **nucleic acid**, capturing the amplified **product** and detecting a **polynucleotide** sequence variation in the amplified **product**, comprising:

(a) obtaining a first **solid support** where:

(i) the surface of the first array comprises a first, second, third and fourth areas;

(ii) a first chemical group, comprising a releasable forward

primer specific for the region of the target nucleic acid, is immobilized on the first area;

(iii) a second chemical group, comprising a releasable reverse primer specific for the region of target nucleic acid, is immobilized on the second area;

(iv) a first polynucleotide probe, comprising a subsequence complementary to one variant of the polynucleotide variation, is immobilized on the third area, the subsequence containing at least one interrogation position complementary to a corresponding nucleotide in the variant; and

(v) a second polynucleotide probe is immobilized to the fourth area, the second probe differing from the first probe by at least one nucleotide;

(b) obtaining a second **solid support** where the surface of the **solid support** comprises a reaction well and a mixture of reactants comprising a DNA polymerase, the target nucleic acid and deoxynucleotides are placed within the reaction well;

(c) assembling the first and second **solid support**, where the mixture of reactants are in contact with the four areas on the first support;

(d) releasing the forward and reverse primers;

(e) generating the amplified **product** for the target **nucleic acid**;

(f) capturing the amplified product by the first or second polynucleotide probes through hybridization;

(g) extending one or more hybridization complexes;

(h) disassembling the two supports;

(i) washing the first support;

(j) comparing the relative binding of the two probes on the first support; and

(k) identifying the polynucleotide variation in the amplified/extended product.

USE - The methods and apparatus are useful for performing a large number of chemical and biological reactions, especially polynucleotide amplification reactions and the detection of sequence variations (claimed), expression levels and their functions.

ADVANTAGE - The method is capable of generating large amounts of data or products per unit time by carrying out large numbers of reactions in parallel, the process is also amenable to full automation.

Dwg.0/21

L61 ANSWER 2 OF 26 USPATFULL

ACCESSION NUMBER: 1999:19303 USPATFULL

TITLE: Process for **preparing polynucleotides on a solid support** in a tightly packed bed

09/076956

INVENTOR(S): Chatelain, Fran.cedilla.ois, Paris,
France
Kumarev, Viktor, Villemonble, France
PATENT ASSIGNEE(S): GENSET, Paris, France (non-U.S. corporation)

	NUMBER	KIND	DATE
PATENT INFORMATION:	US 5869643		19990209
APPLICATION INFO.:	US 1994-358556		19941214 (8)

	NUMBER	DATE
PRIORITY INFORMATION:	FR 1993-15164	19931216
DOCUMENT TYPE:	Utility	
FILE SEGMENT:	Granted	
PRIMARY EXAMINER:	Kunz, Gary L.	
LEGAL REPRESENTATIVE:	Jacobson, Price, Holman & Stern, PLLC	
NUMBER OF CLAIMS:	13	
EXEMPLARY CLAIM:	1	
NUMBER OF DRAWINGS:	2 Drawing Figure(s); 2 Drawing Page(s)	
LINE COUNT:	1258	

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

AB The present invention relates to a process for preparing polynucleotides on a solid support in a reactor in the form of a column through which solutions of reagents and/or solvents are circulated, wherein the solid phase constituting said solid support is immobilized in said reactor, and said solutions migrate in the column and through the solid phase according to a frontal progression, such that the successive solutions from each step of a synthesis cycle do not mix at all, or very little.

The subject of the present invention is also a reactor consisting of a column completely filled with particles of porous materials constituting the solid support, and a synthesis device including such a reactor.

CAS INDEXING IS AVAILABLE FOR THIS PATENT.

L61 ANSWER 3 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1996:109815 CAPLUS

DOCUMENT NUMBER: 124:195209

TITLE: Effect of sequences, flanking the -10 region of spc promoter homologs as viewed from the starting point, on interactions with Escherichia coli RNA polymerase

AUTHOR(S): Savinkova, L. K.; Sokolenko, A. A.; Kel, A. E.; Tulokhonov, I. I.; Kumarev, V. P.;

Searcher : Shears 308-4994

09/076956

CORPORATE SOURCE: Baranova, L. V.; Rar, V. A.; Salganik,
SOURCE: R. I.
Novosib. Inst. Tsitol. Genet., 630090, Russia
Mol. Biol. (Moscow) (1996), 30(1), 188-91
CODEN: MOBIBO; ISSN: 0026-8984
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB The effects of nucleotide sequences flanking the -10 region of promoter homologs of Escherichia coli from the starting point on the interaction with E. coli RNA polymerase were studied. It was shown that the affinity to RNA polymerase is detd. by the consensus sequence of the -10 region of spc-promoter homologs. Replacement with the original TATAAT sequence, belonging to the non-transcribed DNA strand, for the complementary sequence ATATTA decreased the affinity to RNA polymerase two-fold.

L61 ANSWER 4 OF 26 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 1
ACCESSION NUMBER: 1995:943432 CAPLUS
DOCUMENT NUMBER: 124:9332
TITLE: Merrifield synthesis of oligoribo- and
oligodeoxyribonucleotides
INVENTOR(S): Chatelain, Francois; Kumarev,
Viktor
PATENT ASSIGNEE(S): Genset, Fr.
SOURCE: Eur. Pat. Appl., 22 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 658566	A1	19950621	EP 1994-402879	19941214
EP 658566	B1	19970702		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
FR 2714061	A1	19950623	FR 1993-15164	19931216
FR 2714061	B1	19960308		
AT 154936	E	19970715	AT 1994-402879	19941214
ES 2106479	T3	19971101	ES 1994-402879	19941214
US 5869643	A	19990209	US 1994-358556	19941214
CA 2138240	AA	19950617	CA 1994-2138240	19941215
AU 9480432	A1	19950622	AU 1994-80432	19941215
AU 693487	B2	19980702		
JP 08239397	A2	19960917	JP 1994-313790	19941216
PRIORITY APPLN. INFO.:		FR 1993-15164	A	19931216
AB Merrifield synthesis of oligoribo- and oligodeoxyribonucleotides is				

Searcher : Shears 308-4994

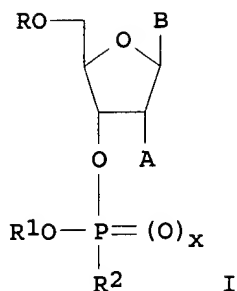
09/076956

reported. Description of the synthesis app. is also reported.

L61 ANSWER 5 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1995:777666 CAPLUS
DOCUMENT NUMBER: 123:199304
TITLE: Merrifield synthesis of
nucleic acids
INVENTOR(S): Baranova, Ludmilla; Chatelain,
Francois; Kumarev, Viktor
PATENT ASSIGNEE(S): Genset, Fr.
SOURCE: PCT Int. Appl., 34 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: French
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 9501987	A1	19950119	WO 1994-FR842	19940707
W: AU, CA, JP, KR, US				
RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE				
FR 2707296	A1	19950113	FR 1993-8498	19930709
FR 2707296	B1	19950929		
AU 9472309	A1	19950206	AU 1994-72309	19940707
AU 696421	B2	19980910		
EP 707592	A1	19960424	EP 1994-921699	19940707
EP 707592	B1	19970903		
R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LI, LU, MC, NL, PT, SE				
JP 08512306	T2	19961224	JP 1994-503866	19940707
AT 157668	E	19970915	AT 1994-921699	19940707
ES 2109005	T3	19980101	ES 1994-921699	19940707
PRIORITY APPLN. INFO.:			FR 1993-8498	A 19930709
			WO 1994-FR842	W 19940707
OTHER SOURCE(S):	MARPAT 123:199304			
GI				

Searcher : Shears 308-4994



AB Process for **synthesizing** solid phase **nucleic** acids using universal polymer support for intermediate nucleotides, e.g. I (A = H, OH, protected OH; B = nucleobase; R = trityl derivs.; R1 = mineral or org. polymer support; R2 = H, x = 1; R2 = halo, alkoxy, x = 0) characterized in that a mineral or org. polymer, bound by a bivalent hydrocarbon radical to an epoxy or glycol-type group, is used as a **solid support**, epoxy or glycol-type group comprising two adjacent satd. carbon atoms on which an OH and a nucleophilic group are substituted. The present invention also pertains to compds. contg. an epoxy or glycol-type group as defined above, useful for example as a **solid support** in a process for **solid support nucleic acid synthesis**. Thus, Merrifield **synthesis** of **oligodeoxyribonucleotides** AGTC and d(AGTC) is reported.

L61 ANSWER 6 OF 26 WPIDS COPYRIGHT 2001 DERWENT INFORMATION LTD
 ACCESSION NUMBER: 1995-054238 [08] WPIDS
 DOC. NO. CPI: C1995-024620
 TITLE: Solid-phase **nucleic acid synthesis** - using organic or inorganic polymer support functionalised with epoxide or glycol-type gps..
 DERWENT CLASS: A96 B04 D16
 INVENTOR(S): **BARANOVA, L; CHATELAIN, F; KUMAREV, V**
 PATENT ASSIGNEE(S): (GEST) GENSET
 COUNTRY COUNT: 23
 PATENT INFORMATION:

PATENT NO	KIND	DATE	WEEK	LA	PG
FR 2707296	A1	19950113	(199508)*		29
WO 9501987	A1	19950119	(199509)		
RW: AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE					
W: AU CA JP KR US					

09/076956

AU 9472309 A 19950206 (199518)
EP 707592 A1 19960424 (199621) FR
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
JP 08512306 W 19961224 (199710) 33
EP 707592 B1 19970903 (199740) FR 27
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
DE 69405396 E 19971009 (199746)
ES 2109005 T3 19980101 (199809)
AU 696421 B 19980910 (199848)
TW 397839 A 20000711 (200106)

APPLICATION DETAILS:

PATENT NO	KIND	APPLICATION	DATE
FR 2707296	A1	FR 1993-8498	19930709
WO 9501987	A1	WO 1994-FR842	19940707
AU 9472309	A	AU 1994-72309	19940707
EP 707592	A1	EP 1994-921699	19940707
		WO 1994-FR842	19940707
JP 08512306	W	WO 1994-FR842	19940707
		JP 1995-503866	19940707
EP 707592	B1	EP 1994-921699	19940707
		WO 1994-FR842	19940707
DE 69405396	E	DE 1994-605396	19940707
		EP 1994-921699	19940707
		WO 1994-FR842	19940707
ES 2109005	T3	EP 1994-921699	19940707
AU 696421	B	AU 1994-72309	19940707
TW 397839	A	TW 1994-110699	19941118

FILING DETAILS:

PATENT NO	KIND	PATENT NO
AU 9472309	A Based on	WO 9501987
EP 707592	A1 Based on	WO 9501987
JP 08512306	W Based on	WO 9501987
EP 707592	B1 Based on	WO 9501987
DE 69405396	E Based on	EP 707592
	Based on	WO 9501987
ES 2109005	T3 Based on	EP 707592
AU 696421	B Previous Publ.	AU 9472309
	Based on	WO 9501987

PRIORITY APPLN. INFO: FR 1993-8498 19930709
AN 1995-054238 [08] WPIDS
AB FR 2707296 A UPAB: 19970723

Searcher : Shears 308-4994

Solid-phase **nucleic acid synthesis** is effected using a **solid support** comprising an organic or inorganic polymer (P1) linked via a divalent hydrocarbon gp. to an epoxide gp. or a glycol-type gp. comprising an OH gp. and a nucleophilic gp. (Nu) on adjacent satd. C. atoms. Also claimed are supports of formula $R'1-C(Nu)(R1)-C(OH)(R2)-R'2$ (I), (II) and $R'1-C(R'1)(OOCR1)-C(OH)(R2)-R'2$ (III): one of R1, R'1, R'1', R2 and R'2 = P1 or a hydrocarbon gp. substd. by P1, the rest being selected from H and inert gps. Also claimed are (I)-(III) where R1+R2 or R'1+R'2 forms a ring (esp. heterocyclic) substd. by P1. Also claimed are (I) where R1+R2 or R'1+R'2 forms a ribose ring and Nu is a protected 2'-OH gp..

ADVANTAGE - The supports are 'universal', i.e. they can be used whatever the nature of the first nucleotide in the RNA or DNA to be **synthesised** and whatever the type of substitution on the 3' or 5' phosphate gp. in the monomers used for synthesis, depending on whether synthesis is effected in the 5'-3' or 3'-5' direction.

Dwg.0/0

ABEQ EP 707592 B UPAB: 19971006

Process for the **preparation** of a **nucleic acid** by **synthesis** on a **solid support**

characterised in that an inorganic or organic polymer is used as **solid support**, which polymer is connected via a divalent hydrocarbon radical to an epoxide group or a group of the glycol type, the latter group consisting of two adjacent saturated carbons on which an OH group and a nucleophilic group are respectively substituted.

Dwg.0/0

L61 ANSWER 7 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1995:407118 CAPLUS

DOCUMENT NUMBER: 123:2531

TITLE: The immediate vicinity of mouse metallothionein-I gene contains two sites conferring glucocorticoid inducibility to the heterologous promoter. [Erratum to document cited in CA122:2601]

AUTHOR(S): Plisov, Sergey Y.; Nichiporenko, Marina G.; Shkapenko, Alla L.; Kumarev, Victor P.; Baranova, Ludmila V.; Merkulova, Tatyana I.

CORPORATE SOURCE: Institute of Cytology and Genetics, Siberian Division of the Russian Academy of Sciences, Novosibirsk, 6300890, Russia

SOURCE: FEBS Lett. (1995), 358(1), 104

CODEN: FEBLAL; ISSN: 0014-5793

DOCUMENT TYPE: Journal

5 of 5

LANGUAGE: English

AB The errors were not reflected in the abstr. but were reflected in the structures of the indexed sequence entries.

L61 ANSWER 8 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1995:119944 CAPLUS

DOCUMENT NUMBER: 122:2601

TITLE: The immediate vicinity of mouse metallothionein-I gene contains two sites conferring glucocorticoid inducibility to the heterologous promoter

AUTHOR(S): Plisov, Sergey Y.; Nichiporenko, Marina G.; Shkapenko, Alla L.; Kumarev, Victor P.; Baranova, Ludmila V.; Merkulova, Tatyana I.

CORPORATE SOURCE: Institute of Cytology and Genetics, Siberian Division of the Russian Academy of Sciences, Lavrentyev 10, Novosibirsk, 6300890, Russia

SOURCE: FEBS Lett. (1994), 352(3), 339-41
CODEN: FEBLAL; ISSN: 0014-5793

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Glucocorticoid responsive elements (GRES) located - 252 to - 209 bp upstream and + 1011 to + 1054 bp downstream of the transcription initiation site of the mouse metallothionein-I (mMT-I) gene were identified in transient transfection expts.. However, the promoter region of the mMT-I gene (- 330 to + 70 bp) was found to provide low, if any, glucocorticoid induction of the linked CAT gene, while showing strong cadmium regulation, comparable with the in vivo level.

L61 ANSWER 9 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1993:626351 CAPLUS

DOCUMENT NUMBER: 119:226351

TITLE: Synthesis of oligo(poly)nucleotides and apparatus for this

INVENTOR(S): Kumarev, Viktor P.; Belikov, Sergej I.; Kobzev, Viktor F.; Kuznedelov, Konstantin D.; Baranova, Lidiya V.; Sredin, Yuriy G.

PATENT ASSIGNEE(S): Kooperativ "bios", USSR

SOURCE: U.S.S.R. From: Izobreteniya 1992, (41), 89-90.
CODEN: URXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Russian

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

09/076956

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 1773916	A1	19921107	SU 1990-4875257	19901018

AB Oligo(poly)nucleotides are prepd. by a shorter, more efficient synthesis on a solid-phase, dispersed support by rinsing the support having a bound nucleoside, mixing the 5'-O-protected 3'-H-phosphonate nucleotide component with a dehydrating agent, preferably 0.9-1.5 equiv acid chlorides per equiv nucleoside-3'-H-phosphonate over time $t_{mix} = 0.01-1.0$ s, and condensation with the 5'-OH group of the bound nucleoside over time $t_{cond} = 0.5-2.5$ s, followed by removal of the 5'-O-protecting group, and repetition of these operations 2-20 times until an oligo(poly)nucleotide with the desired no. of monomeric units is obtained, followed by oxidn. of the oligo(poly)nucleotide-H-phosphonate, and cleavage of the oligo(poly)nucleotide from the support; reaction temp. at all stages of the synthesis $T = 30-65$.degree.. A flow-reactor-type app. having a heating block for this synthesis is also claimed.

L61 ANSWER 10 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1990:546514 CAPLUS

DOCUMENT NUMBER: 113:146514

TITLE: Identification of the glucocorticoid receptor binding site at the 5'-flanking region of the mouse metallothionein 1 gene: effect of base substitution on binding efficiency

AUTHOR(S): Plisov, S. Yu.; Merkulova, T. I.; Baranova, L. V.; Kumarev, V. P.; Merkulov, V. M.; Sokolenko, A. A.; Kaikina, I. I.; Salganik, R. I.

CORPORATE SOURCE: Inst. Cytol. Genet., Novosibirsk, 630090, USSR

SOURCE: Mol. Biol. (Moscow) (1990), 24(4), 1109-16

CODEN: MOBIBO; ISSN: 0026-8984

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB Interaction of highly purified glucocorticoid receptor complex (GIRC) with a synthetic DNA-fragment of mouse metallothionein 1 gene promoter (-209 to -252 bp (MTwt) was investigated. By means of nitrocellulose filter binding assay this fragment was shown to contain a specific GIRC-binding site. To analyze the fine structure of the site, 2 variants of this DNA-fragment were synthesized and used in gel retardation assay. GIRC specific binding was shown to be retained throughout the interaction with the fragment in which all base pairs in the generally accepted GIRC-binding site consensus G--ACA---TGTTCT were substituted by transitions mutation, although the interaction was weaker than the GIRC-binding with MTwt, where the consensus was in its natural environment. Complete loss of the GIRC-binding ability was obsd. when five C/G pairs were substituted

Searcher : Shears 308-4994

by A/T. Two of the C/G pairs were in the consensus. Comparison of the data obtained with results of computer anal. suggests that the consensus the core of the GIRC-binding site, and is flanked with addnl. elements that interact with GIRC.

L61 ANSWER 11 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1990:94090 CAPLUS

DOCUMENT NUMBER: 112:94090

TITLE: Energetics of the B-H transition in supercoiled DNA carrying d(CT)x.cntdot.d(AG)x and d(C)n.cntdot.d(G)n inserts

AUTHOR(S): Lyamichev, V. I.; Mirkin, S. M.; Kumarev, V. P.; Baranova, L. V.; Vologodskii, A. V.; Frank-Kamenetskii, M. D.

CORPORATE SOURCE: Inst. Mol. Genet., Moscow, 123182, USSR

SOURCE: Nucleic Acids Res. (1989), 17(22), 9417-23
CODEN: NARHAD; ISSN: 0305-1048

DOCUMENT TYPE: Journal

LANGUAGE: English

AB The B-H transition was studied in d(AG)x inserts of varying length under superhelical stress. The new data and previously published results for the d(G)31 insert are treated within a phenomenol. model of the B-H transition, making it possible to obtain, for the first time, the energy parameters of the B-H transition in the d(AG)x and d(G)n sequences.

L61 ANSWER 12 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1989:131311 CAPLUS

DOCUMENT NUMBER: 110:131311

TITLE: Localization of a lysine residue near the site initiating substrate binding of T7 bacteriophage RNA polymerase

AUTHOR(S): Maksimova, T. G.; Mustaev, A. A.; Zaichikov, E. F.; Baranova, L. V.; Kumarev, V. P.; Lukhtanov, E. A.

CORPORATE SOURCE: Limnol. Inst., Irkutsk, USSR

SOURCE: Bioorg. Khim. (1989), 15(1), 18-23
CODEN: BIKHD7; ISSN: 0132-3423

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB A highly selective affinity label was introduced into the phage T7 RNA polymerase by means of GMP ortho-formylphenyl ester and [.alpha.-32P]UTP near the enzyme's active site, which was located by using the limited cleavage technique. Anal. of gel-electrophoretic patterns of the cleavage products led to the conclusion that lysine-631 is the target of labeling. The region near this residue has a high degree of sequence homol. with regions of RNA polymerases from phages T3 and SP6 and yeast mitochondria.

L61 ANSWER 13 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1988:570776 CAPLUS
DOCUMENT NUMBER: 109:170776
TITLE: Rapid automatic synthesis of
deoxypolynucleotides
AUTHOR(S): Kumarev, V. P.; Baranova, L.
V.; Kobzev, V. F.; Kuznedelov, K. D.;
Sredin, Yu. G.
CORPORATE SOURCE: Inst. Cytol. Genet., Novosibirsk, USSR
SOURCE: Bioorg. Khim. (1988), 14(2), 276-8
CODEN: BIKHD7
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB A rapid automatic synthesis of deoxypolynucleotides from 5'-O-(dimethoxytritylnucleoside 3'-H phosphonates in an improved 'gene 2' synthesizer was developed. The synthetic scheme includes detritylation with trifluoroacetic acid in CH₂Cl₂, washing with MeCN instead of a pyridine-MeCN mixt. and one-step oxidn. with iodine-AcOH in pyridine instead of two-step oxidn. in the presence of amines. More than 160 polynucleotides contg. 8 to 83 monomers were prepd. for various biochem. goals including synthesis of promoter 9(260 bp) of the mouse metallothionein I gene and of promoter and leader sequence (120 bp) of E. coli alk. phosphatase.

L61 ANSWER 14 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1987:576390 CAPLUS
DOCUMENT NUMBER: 107:176390
TITLE: Thiophosphate analog of nucleic acids. VI. The synthesis and properties of deoxynucleotides containing 3'-phosphothiomethyl group for phosphotriester synthesis of oligodeoxynucleotides
AUTHOR(S): Kumarev, V. P.; Baranova, L.
V.; Bogachev, V. S.; Lebedev, A. V.;
Obukhova, L. V.
CORPORATE SOURCE: Inst. Cytol. Genet., Novosibirsk, USSR
SOURCE: Bioorg. Khim. (1986), 12(10), 1348-58
CODEN: BIKHD7
DOCUMENT TYPE: Journal
LANGUAGE: Russian

AB A modified phosphotriester method for synthesis of oligodeoxyribonucleotides involving the synthesis of fully protected deoxynucleotides, 5'-dimethoxytrityl-N-acylnucleoside-3'-(.beta.-cyanoethyl)-3'-(S-methyl)thiophosphates, that are subsequently used for prepn. of appropriate nucleoside and nucleotide components was developed. The latter are utilized in a condensation reaction in pyridine in the presence of the usual condensing agents. The

proposed modification makes possible the synthesis of
oligodeoxyribonucleotides in soln. starting from mono-, di-, and
trimers and requires no chromatog. at the intermediate stages. The
yield of final products varies from 5-25%. The modified method was
used to prep. oligodeoxynucleotides of 8-18 base-long components
that were subsequently used for enzymic synthesis, cloning, and
expression of human angiotensin I gene and human fibroblast
interferon gene fragment.

L61 ANSWER 15 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1987:1205 CAPLUS

DOCUMENT NUMBER: 106:1205

TITLE: Chemical and enzymic synthesis and cloning of a
biologically active gene for human
.beta.-interferon

AUTHOR(S): Kumarev, V. P.; Rivkin, M. I.;
Amirkhanov, N. V.; Baranova, L. V.;
Bogachev, V. S.; Kobets, M. L.; Oshevskii, S.
I.; Obukhova, L. V.; Rybakov, V. N.; et al.

CORPORATE SOURCE: Inst. Tsitol. Genet., Novosibirsk, USSR
SOURCE: Dokl. Akad. Nauk SSSR (1986), 290(1), 244-9
[Biochem.]

CODEN: DANKAS; ISSN: 0002-3264

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB Chem. synthesized oligodeoxyribonucleotide fragments were
enzymically ligated and cloned in Escherichia coli to produce a
biol. active synthetic human .beta.-interferon gene. The
oligonucleotides were synthesized by a modified version of the
triesther method, in which thiomethyl groups were utilized in place
of aryl groups to protect the internucleotide phosphate residues.
This modification increased the condensation product yield, reduced
the variety of starting material required, and permitted the
synthesis of oligonucleotides contg .gtoreq.12 trinucleotide blocks
without electrophoretic purifn. of intermediate products. The
synthetic gene sequence was designed to allow maximal accommodation
to the bacterial host and to give unique restriction sites to
facilitate the manipulation of sep. portions of the gene. The gene
was cloned behind the lac operon promoter of plasmid pSK lac95-1.
After induction of the lac operon, crude exts. of the induced cells
with the recombinant plasmid had antiviral activity in human
fibroblasts.

L61 ANSWER 16 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1983:405976 CAPLUS

DOCUMENT NUMBER: 99:5976

TITLE: Iodo derivatives of desoxythionucleotides

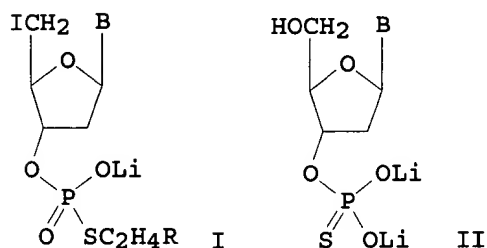
INVENTOR(S): Kumarev, V. P.; Bogachev, V. S.;

09/076956

Kobzev, V. F.; Baranova, L. V.;
Kobzeva, N. S.
PATENT ASSIGNEE(S): Institute of Cytology and Genetics, Novosibirsk,
USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom.
Obraztsy, Tovarnye Znaki 1983, (2), 104.
CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 988824	A1	19830115	SU 1979-2869154	19791101

GI



AB I (B = thymine, N4-anisoylcytosine, N6-benzoyladenine, N2-isobutyrylguanine residue, R = CN, H₂NCO, or Ph₂NCO) were prepd. by alkylating II with a 2-4 fold excess of 2-bromo deriv. of MeCH₂R in DMF, drying the reaction mixt. and iodinating with a soln. of (PhO)₃P+Me I- in DMF.

L61 ANSWER 17 OF 26 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 2
ACCESSION NUMBER: 1982:563428 CAPLUS
DOCUMENT NUMBER: 97:163428
TITLE: Derivatives of deoxythionucleotides as monomers
for synthesis of deoxypolynucleotides and
process for their preparation
INVENTOR(S): Kumarev, V. P.; Bogachev, V. S.;
Baranova, L. V.
PATENT ASSIGNEE(S): Institute of Cytology and Genetics, Novosibirsk,
USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom.
Obraztsy, Tovarnye Znaki 1982, (19), 101.
CODEN: URXXAF

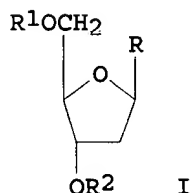
Searcher : Shears 308-4994

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DOCUMENT TYPE: Patent
 LANGUAGE: Russian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 929647	A1	19820523	SU 1979-2835533	19791101

GI



AB Nucleotides [R = residue of thymine, N4-anisoylcytosine, N6-benzoyladenine, N2-isobutyrylguanine; R1 = H, 4,4'-dimethoxytrityl (Q); R2 = P(O) (SMe)OR3; R3 = H, NCCH2CH2] were prepd. from I (same R; R1 = Q; R2 = H) by phosphorylation with 5-15 fold excess P(S)Cl3 in pyridine for 2-4 h at 0-5.degree.. Treating the reaction mixt. with ethylenecyanohydrin in pyridine 1-2 h at room temp gave a dicyanoethyl deriv. which was hydrolyzed with Et3N in alc. and the resulting monocyanoethyl deriv. was alkylated with MeI in DMF with subsequent treatment with toluenesulfonic acid and/or Et3N in alc.

L61 ANSWER 18 OF 26 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 3
 ACCESSION NUMBER: 1982:528013 CAPLUS
 DOCUMENT NUMBER: 97:128013
 TITLE: Polydeoxynucleotides
 INVENTOR(S): Kumarev, V. P.; Bogachev, V. S.;
 Baranova, L. V.; Rivkin, M. I.
 PATENT ASSIGNEE(S): Institute of Cytology and Genetics, Novosibirsk,
 USSR
 SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom.
 Obraztsy, Tovarnye Znaki 1982, (17), 120.
 CODEN: URXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Russian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

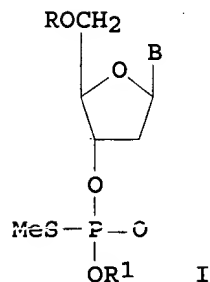
PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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SU 925964	A1	19820507	SU 1979-2835418	19791101

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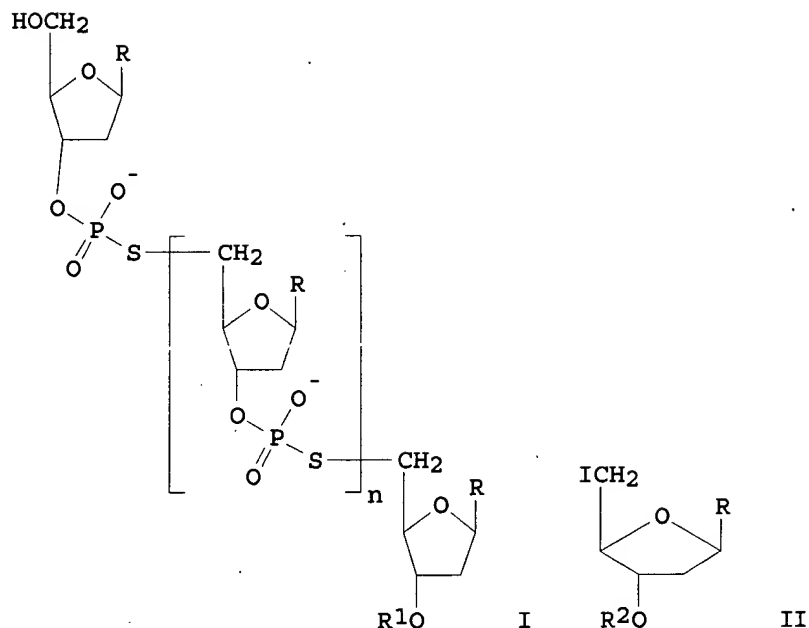
AB Polydeoxynucleotides were prepd. by condensation of I (B = thymine, N4-anisoylcytosine, N6-benzoyladenine, N2-isobutyrylguanine residues; R = H, dimethoxytrityl; R1 = H, CH2CH2CN) in pyridine in the presence of arylsulfonyltetrazolide followed by treatment with acid or Et3N and extn. with CHCl3 or a mixt. of CHCl3-MeOH (7:3) and subsequent removal of the protecting methylthio group with NH3 at 50-60.degree. over 4-6 h.

L61 ANSWER 19 OF 26 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 4
 ACCESSION NUMBER: 1982:456195 CAPLUS
 DOCUMENT NUMBER: 97:56195
 TITLE: Oligodeoxythiothymidylates
 INVENTOR(S): Kumarev, V. P.; Bogachev, V. S.;
 Baranova, L. V.; Kobzev, V. F.
 PATENT ASSIGNEE(S): Institute of Cytology and Genetics, Novosibirsk,
 USSR
 SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom.
 Obraztsy, Tovarnye Znaki 1982, (9), 89.
 CODEN: URXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Russian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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SU 910651	A1	19820307	SU 1976-2414492	19760930

GI

Searcher : Shears 308-4994



AB Oligodeoxythiothymidylates I (R = thymine residue; R1 = H, thiophosphate or S-2-cyanoethyl thiophosphate residue; n = 0-3) were prepd. by treating Li salts of thymidine- or oligothymidinyl-3'-phosphorothioate with II (R2 = H or Li salt of S-2-cyanoethyl phosphorothioate).

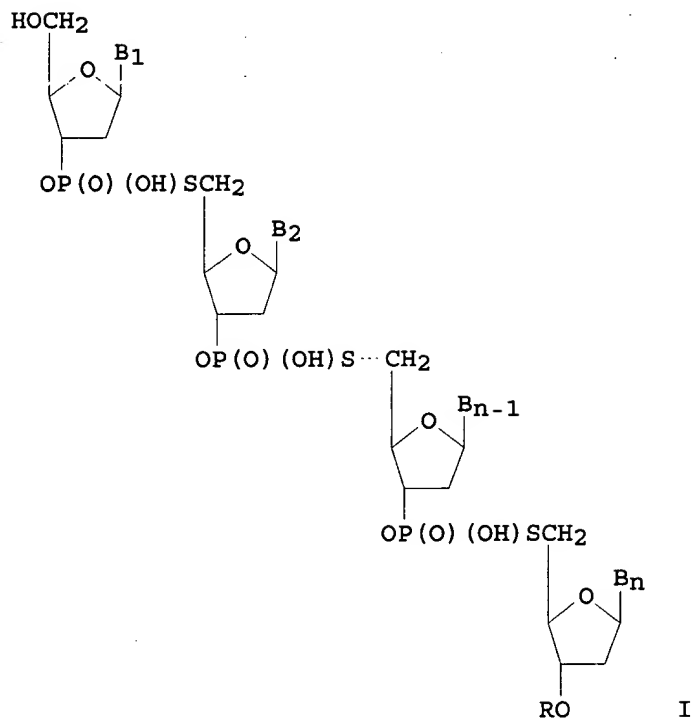
L61 ANSWER 20 OF 26 CAPLUS COPYRIGHT 2001 ACS DUPLICATE 5
 ACCESSION NUMBER: 1982:558758 CAPLUS
 DOCUMENT NUMBER: 97:158758
 TITLE: Oligodeoxyribothionucleotides exhibiting template properties in RNA polymerase system from Escherichia coli
 INVENTOR(S): Kumarev, V. P.; Bogachev, V. S.; Baranova, L. V.; Kobzev, V. F.; Rivkin, M. I.
 PATENT ASSIGNEE(S): Institute of Cytology and Genetics, Novosibirsk, USSR
 SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom. Obraztsy, Tovarnye Znaki 1982, (3), 102. CODEN: URXXAF
 DOCUMENT TYPE: Patent
 LANGUAGE: Russian
 FAMILY ACC. NUM. COUNT: 1
 PATENT INFORMATION:

Searcher : Shears 308-4994

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PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 899571	A1	19820123	SU 1979-2798760	19790713

GI



AB Oligodeoxyribothionucleotide I (R = H, thiophosphate residue, .beta.-cyano [or N,N-diphenylcarbamoyl]ethylphosphorothioate; B = thymine, cytosine, adenine, guanine; n = 1, 2, 3, etc.) showed template properties in an Escherichia coli RNA polymerase system.

L61 ANSWER 21 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1982:439314 CAPLUS

DOCUMENT NUMBER: 97:39314

TITLE: Derivatives of purine deoxynucleotides as end monomers for synthesis of polythiodeoxynucleotides and process for preparing them

INVENTOR(S): Kumarev, V. P.; Bogachev, V. S.;

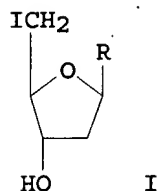
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PATENT ASSIGNEE(S): Kobzev, V. F.; Baranova, L. V.
Institute of Cytology and Genetics, Novosibirsk,
USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom.
Obraztsy, Tovarnye Znaki 1982, (9), 89.
CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 910652	A1	19820307	SU 1976-2405855	19760820

GI



AB Deoxynucleosides I (R = N6-benzoyladenine or N2-isobutyrylguanine residue), for the title use, were prepd. by treating N6-benzoyl-2'-deoxyadenosine or N2-isobutyryl-2'-deoxyguanosine with MeP+(OPh)3I- in DMF.

L61 ANSWER 22 OF 26 CAPLUS COPYRIGHT 2001 ACS
ACCESSION NUMBER: 1982:439313 CAPLUS
DOCUMENT NUMBER: 97:39313
TITLE: Deoxythionucleotides as monomers for synthesis
of polythiodeoxynucleotides and process for
preparing the same
INVENTOR(S): Kumarev, V. P.; Bogachev, V. S.;
Kobzev, V. F.; Baranova, L. V.
PATENT ASSIGNEE(S): Institute of Cytology and Genetics, Novosibirsk,
USSR
SOURCE: U.S.S.R. From: Otkrytiya, Izobret., Prom.
Obraztsy, Tovarnye Znaki 1982, (9), 89.
CODEN: URXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Russian

Searcher : Shears 308-4994

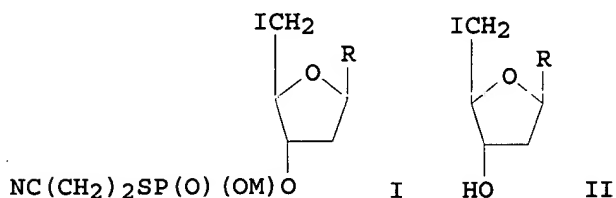
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FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
SU 910650	A1	19820307	SU 1976-2405856	19760820

GI



AB Thionucleotides I (R = thymine, N4-anisoylcytosine, N6-benzoyladenine, N2-isobutyrylguanine residue; M = NH₄, Na, Li) are monomers for prepg. polythiodeoxynucleotides. I were prepd. by condensing II with 2-5 parts excess S-2-carbamoylethyl thiophosphate in a mixt. of PO(NMe₂)₃ (80-90%) and pyridine (10-20%) in the presence of 6-15 parts excess dicyclohexylcarbodiimide.

L61 ANSWER 23 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1983:107664 CAPLUS

DOCUMENT NUMBER: 98:107664

TITLE: Phosphorothioate analogs of nucleic acids. II.
Synthesis and properties of 5'-S-phosphorothioate analogs of oligodeoxyribonucleotides

AUTHOR(S): Kumarev, V. P.; Bogachev, V. S.;
Kobzev, V. F.; Baranova, L. V.;
Rivkin, M. I.; Rybakov, V. N.

CORPORATE SOURCE: Inst. Cytol. Genet., Novosibirsk, USSR

SOURCE: Bioorg. Khim. (1982), 8(11), 1525-34

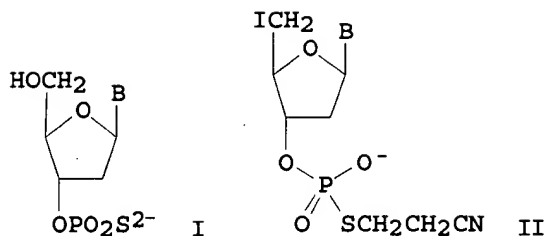
CODEN: BIKHD7

DOCUMENT TYPE: Journal

LANGUAGE: Russian

GI

Searcher : Shears 308-4994



AB A general method is proposed for the synthesis of 5'-S-phosphorothioate analogs of oligodeoxynucleotides based on the reaction between phosphorothioates I (B = thymine, 4-anisoylcytosine, 6-benzoyladenine, 2-isobutyrylguanine) and idonucleoside cyanoethyl phosphorothioates II or 2',5'-dideoxy-5'-idonucleosides in DMF and DMF-water mixts. The first-order rate consts. of this reaction have been studied as a function of counter-cations and length of ps-component. They decrease in the series $\text{Li}^+ > \text{Na}^+ > \text{K}^+ > \text{B4N}^+$ and $\text{Tps} > (\text{Tps})_2 > (\text{Tps})_3$. The efficiency of the method was illustrated by the synthesis of various defined sequences related to the globin mRNA and synthetic angiotensin I gene in good yields. Modification of the usual sequence anal. method for synthesized analogs was developed.

L61 ANSWER 24 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1983:107663 CAPLUS

DOCUMENT NUMBER: 98:107663

TITLE: Phosphorothioate analogs of nucleic acids. I. Synthesis and properties of monomers for the synthesis of 5'-S-phosphorothioate analogs of oligodeoxyribonucleotides

AUTHOR(S): Kumarev, V. P.; Bogachev, V. S.; Kobžev, V. F.; Baranova, L. V.

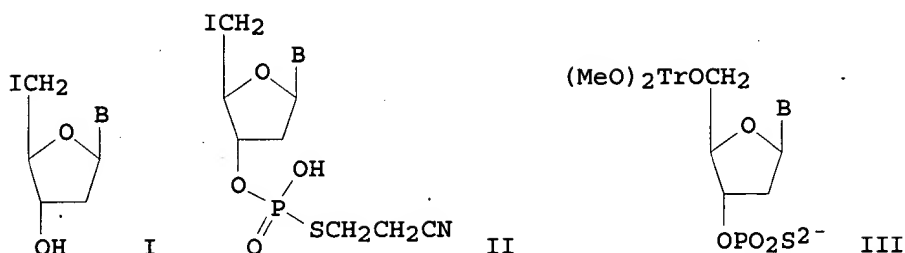
CORPORATE SOURCE: Inst. Cytol. Genet., Novosibirsk, USSR

SOURCE: Bioorg. Khim. (1982), 8(11), 1516-24
CODEN: BIKHD7

DOCUMENT TYPE: Journal

LANGUAGE: Russian

GI



AB 5'-Iodo- and 3'-phosphorothioate derivs. of deoxyribonucleosides used in the synthesis of 5'-S-phosphorothioate analogs of oligodeoxyribonucleotides with unnatural P-S-C (5') bonds were prepd. Thus, nucleosides I (B = thymine, 4-anisoylcytosine, 6-benzoyladenine, 2-isobutyrylguanine moiety) were prepd. from the corresponding N-protected deoxynucleosides and [Me(PhO)3P]⁺ I⁻ in DMF. Thiophosphorylation of I by S-.beta.-carbamoylethylphosphorothioate in the presence of DCC gave II. III (Tr = trityl) were prepd. from N-protected 5'-O-dimethoxytritylnucleosides and PSCl3. The reactivity of 2',5'-dideoxy-5'-iodothymidine in substitution reactions were shown to be 2 times greater than the corresponding tosyl or mesyl derivs.

L61 ANSWER 25 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1980:602674 CAPLUS

DOCUMENT NUMBER: 93:202674

TITLE: Preparation of the physiologically active hormone Angiotensin I as a product of synthetic gene expression in Escherichia coli cells

AUTHOR(S): Kumarev, V. P.; Rivkin, M. I.; Bogachev, V. S.; Baranova, L. V.; Merkulov, V. M.; Rybakov, V. N.; Solenov, E. I.; Fedorov, V. I.

CORPORATE SOURCE: Inst. Tsitol. Genet., Novosibirsk, USSR

SOURCE: Dokl. Akad. Nauk SSSR (1980), 252(6), 1506-10, 1504B [Biochem.]

CODEN: DANKAS; ISSN: 0002-3264

DOCUMENT TYPE: Journal

LANGUAGE: Russian

AB A 48-base pair double-stranded deoxyribonucleotide including the codons for angiotensin I [484-42-4] was prepd. by prepg. short blocks by the triester method and joining them with phage T4 DNA ligase. Blocks contg. recognition sites for restriction endonuclease EcoRI were included at the ends of the nucleotide. Treatment of the nucleotide and of a .beta.-galactosidase gene-contg. plasmid pBR322 deriv. with EcoRI permitted insertion of

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the nucleotide in the plasmid. Transformation of E. coli with the resulting plasmid and growth of transformants with the galactosidase inducer isopropylthiogalactoside gave clones whose lysates contained immunoreactive angiotensin I. One clone gave 300 pg angiotensin/108 cells. When the synthetic nucleotide was inserted in the EcoRI site of a phage vector and E. coli hosts were infected with the phage, angiotensin yields .ltoreq.10 ng/108 cells were obsd. in lysates of log-phase cells. The bacterial product had vasopressin activity in rats.

L61 ANSWER 26 OF 26 CAPLUS COPYRIGHT 2001 ACS

ACCESSION NUMBER: 1980:491726 CAPLUS

DOCUMENT NUMBER: 93:91726

TITLE: Molecular cloning of synthetic angiotensin 1 gene in Escherichia coli. A route to physiologically active hormone

AUTHOR(S): Kumarev, V. P.; Rivkin, M. I.; Bogachev, V. S.; Baranova, L. V.; Merkulov, V. M.; Rybakov, V. N.

CORPORATE SOURCE: Siberian Dep., Inst. Cytol. Genet., Novosibirsk, 90, USSR

SOURCE: FEBS Lett. (1980), 114(2), 273-7

CODEN: FEBLAL; ISSN: 0014-5793

DOCUMENT TYPE: Journal

LANGUAGE: English

AB A bihelical polynucleotide contg. the coding sequence for angiotensin I was produced by joining a no. of synthetically prepd. oligonucleotides using polynucleotide kinase and phage T4 DNA ligase. The bihelical polynucleotide was then flanked by a linker oligonucleotide, contg. a restriction endonuclease EcoRI-sensitive site, using DNA ligase. This synthetic gene was introduced into plasmid pMR1 (recombinant between pBR322 and phage .lambda. plac5) in the .beta.-galactosidase gene by hydrolysis with EcoRI, subsequent alk. phosphatase digestion, and religation with DNA ligase. After transformation of Escherichia coli BMH71-18, a no. of angiotensin I-producing clones were obtained, one of which produced .apprx.300 pg/108 cells as detd. by radioimmunoassay. Procedures are also given for introducing the gene into phage .lambda.plac 5-1, whereby upon introduction into host cells the gene is expressed .apprx.10-fold greater than in cells contg. the hybrid plasmid. The angiotensin I so produced had strong vasopressor effects.

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